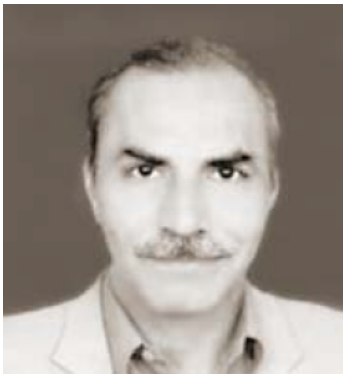
A publication for design for all institute of India April 2013 Vol-8 No-4

Design for All

School of Planning and Architecture, Bhopal

Chairman's Desk:



Dr. Sunil Bhatia

What is wastage? Is it something not required after making use of that element out of the total material provided by nature? We call it generates during the changing of form and it is the integral part of the process to release that is not useful for desired forms or anything that does not require to meet the desire level of objectives or anything that loses its relevance with time. Modern education's biggest achievement is systematic onslaught on our ancient wisdom of 'caring and creativity for the uniform progress' and succeeded in diverting our all efforts on focusing on commercial gains. We educate to young generation 'what is not useful is waste' is wrong education and making them to unaware about real goal of life. 'Everything has purpose.' We site numerous examples in support of our theory and most popular are when electricity is stepped down from higher voltage to the lower it releases heat, vibrations etc. and we do not bother for this wastage of heat since it is not affecting our desired objectives. Is it right education where we never allow our students to explore the possibilities of utilizing what we call wastage? We generally inform self-sustaining or environmental friendly way of designing products but never allow them to think

what appear natural wastage is actually suggesting us for unexplored area where we have not travelled so far. There is an important example of James watt where he had used natural process of converting steam into a powerful tool. It is natural when we heat water it changes forms and converts to gaseous state. Steam was considered waste for over centuries since the days of discovery of fire as tools for heating but James Watt had revolutionized the thought and lives of people by using waste of steam into powerful tool of transportation .Industrial revolution had set its pace after design of steam engine. I always say nothing is waste in this cosmos and everything has purpose. It is because of our limited knowledge we fail to identify its purpose and as such we treat that as a waste. Coal was treated as waste for centuries by ancient people and as we acquired more knowledge it became major source of energy in modern time. Davy safety lamp was designed by Sir Humphry Davy for use in flammable atmospheres of coal mines by using the principle of controlling the wastage to that level that cannot ignite fire. Similarly petroleum was lying unutilized in the womb of the earth for centuries but it is the knowledge of modern man who has developed it into one of the major catalyst for energy requirement for driving movement of second level of industrial revolution. He had designed all kinds of equipment for exploration, extraction, purification and transportations. Our present spectrum of human life is revolving around these developments. In simple words, we may say that it is our limited knowledge that does not know how to use all unknown & 'what we call at present a waste' for constructive purposes. 'Nothing is waste in this universe.'

Briefly speaking all that we call waste may be useful for someone who has knowledge for its utilization. In certain respects our

ancestors were wiser than modern man since they were living with basic wisdom. They were aware about utility of each part of their products. After peeling the banana modern man from urban area treats the skin as a waste and look for bin for its disposal in civilized manner. In rural community they prepare delicious meals out of skin of banana as well as from various skins of vegetables and are treated as delicacy. They have art to convert what urban people treat as waste for the benefit of the society. Excreta or human waste is flowing in the urban area in the form of sewage and managing is great problem for administration. In rural areas they convert it into compost maneuver by using indigenous technology with local resources and use that as food for plants and various extracted materials like mustard cake etc. as supplements foods for animals. 'Nature is self-sustaining and knows how to use every form for the benefit of living beings.' Our imperfect knowledge is the problem. We should be mentally prepared that nothing is waste and 'What we treat as waste is nothing but integral part of the system.' It is the call of the time for retrospection of our educational system because it is failing in attracting our mind for exploring toward basic wisdom but it is allowing to think for more and more applications of existing technology .It is absolutely wrong way of teaching. I advocate by giving example of cane sugar, banana, cotton seed where man has acquired knowledge to use every form for benefits of living beings. We extract juice from cane to convert into sugar; jiggery as sweeteners & preservatives and waste of juice i.e. molasses used by liquor industry for making various types of alcohol and extracted waste of cane is now use for power plant for generation of electricity. Another plant is of cotton; its fiber is used for clothing, seeds for extracting edible oil for human consumption

and cottonseed meal compressed into nuts or cubes of various sizes for feeding to animals. It is all the human mind of the past centuries that is trying every waste into utility. In these areas human mind had won but there are areas still need our attention for achieving knowledge on utilizing every part of the so called wastage for benefits. Crude oil is another example where every level of extracting oil is used by different industries and nothing is left as waste.

I am not traditionalist. Still I give credit to some of ancestors who were aware of the recycling of certain elements and for their benefits. We have designed electronic items but do not know how to use once it completed designed life. Electronic wastages are piling and disturbing the peace of mankind. 'How to dispose of nuclear wastage is great challenge? 'The present tendency is total indifference to the issue. Ancient people were following & practicing the philosophy of 'What can be consumed by man for maintaining basic needs were used and greed should be under control. They were living with the tendency of minimize wastage and never lose objectives. It is the centuries old practice of peeling or cutting the vegetables or food items for cooking and they do with such precision that unwanted materials should be eliminated and there should be minimum waste of edible items. It is responsible of design of many tools like knifes; peelers etc. and for extracting juice from different items various equipment.

New persuasions are to be initiated after thorough research. In certain cases an individual tries & wishes to reduce the wastages but there are some occasions where person deliberately encourage wastage because it becomes symbol of affordability, demonstrating happiness, and power of wealth. It is the individual's trait to prove

before others around that he enjoys power to exhibit. He believes that others are impressed by his wealth & power. Educated people whose number is small are not carried away by his false ego but others take it that he is great man since he can afford to waste resources. 'Wastage is integral part of human living'. It is the commercial gains that controls for optimizing the profits deter them to waste. The concept of wastage has developed pole a part psychology amongst the people. One with generous frame of mind with thinking that it is not kind of wastage if it is going on in order and upholding the human values. A sensible individual would think and act differently. He would checkmate his expenditure & would assure that wastages is minimized. If he is part of the vivacious circle; he would try to enslave others. To achieve profitability man can turn mean to that level which is beyond imagination. A normal person should behave sensibly and we expect such behavior where he tries to achieve his objectives but caries for future generations too. When he goes for sleep he blows out the candle or oil lamp or switches off the light because he does not need light during his sleep and it is waste. If someone experiences fear of darkness he needs minimum light which is provided by low wattage bulb. Wear and tear is another kind of wastages and he accepts this because he knows it is because of frictional forces. To minimize the wastage we have designed various viscosities of lubricants and bearings with ball or without ball. When we ignite our automobiles the unburnt portion of oil is treated as waste and it may harm the humans in long run. To manage this waste designers have designed chimney for managing smokes and mufflers, exhaust for automobiles fumes management.

How does the wastage occur? Ancient people had learnt by keen observations. They needed products that were to be stored for

future use these are either available seasonally or scarcity makes in terms of availability. They first designed products for storage and later on developed the technology for controlling further damage because of environmental effects. They designed pot either with mud or animal skin in various size & shape of mouth to control the environmental damaging effects. They had understood stored products had limited life and were damaged because of either air or light or moisture or heat or all and it is unsuitable for human consumption. They designed earthen pot for storage of water and it was natural for them to move to next level of design 'how to keep it cool'. They used sand with mud to create porous earthen pot and used the philosophy of evaporation for cooling. As technology advanced and with the knowledge of Carnot Cycle we succeeded in designing refrigeration for cooling as well for storage of the products that damage and minimize the wastage.

So called wastage was responsible for progress of civilization and later on we noticed the change in to medical sciences since people questioned 'Why does a man turn to corpse when that becomes waste?' Wastage is then given us packaging industry. Checks & balances are designed to control wastage and it has given us accounting & administrative system. Wind winnowing is an agricultural method developed by ancient cultures for separating grain from chaff. It is also used to remove waste materials.

Whilst the trend is questioning the traditional routes of waste disposal in favor of sustainable waste management strategies. In my opinion this basic question is irrelevant. I am trying to clear the ground for framing the right question. Right question leads to right answer. 'Why do we say no system is hundred percent perfect? It expresses our helplessness that knowledge is yet to achieve

perfection and certain level of wastage is acceptable. It is not the system but our knowledge is imperfect. We should focus on adding values to our educational knowledge rather simply developing applications. The basic technology is mobile but we are talking about features that are nothing but applications. This is not right way to onward progress. Problem of disposing the electronic items remain the same and we do not know what to do with this and we call it garbage is piling. It is problem of imperfect knowledge that is the reason we call it wastage. Once we acquire knowledge of that level where we can use so called wastage then this question loses its importance. Our modern thinking takes us one step ahead in wrong direction and we talk about the process of waste minimization through 'Designing out Waste' and that too is in its infancy after so many years. Many opportunities exist in developing waste minimization strategies in design but nothing is perfect till so far. By redirecting our focus of waste minimization to the earliest stages of projects the many opportunities for waste minimization and recycling exist but it is diverting our attention from actual solutions from traditional thinking. The real solution needs two pronged strategies. One designer should work for minimization of wastage and side by side learn the art 'how to use this waste for betterment of the society'. Our ancestors designed the use of waste in more effective manner than modern man. They used the mud for natural treatment of some ailments and designed earthen pots, toys, baked bricks and many more. In modern time we are using natural products after processing like cement or plaster of Paris. Cement is major chemical composition for construction industry but disposing of its RCC waste is headache. Similarly Plaster of Paris it is used for fixing of broken bone as well as for interior of house. After it is

achieved its objective disposing is difficult compared to mud. Is it not modern mantra for 'reducing waste' of the waste hierarchy: reduce, reuse and recycle? Zero waste is a philosophy and a goal is good but it is directed in wrong direction. They are focusing on "closing the loop" in hope to develop a sustainable economy. Achieving Zero Waste depends on designing products and industrial processes so that their components can be dismantled, repaired and/or recycled. Zero Waste means linking communities, businesses and all kind of industries so that one's waste becomes another's feedstock. In rural India people use all the parts of banana tree and they know nothing is waste. They use fruit for human consumption, stem as vegetables, leaf as serving plates for food, and left over along with banana leaf as food for livestock. Is it not design of zero waste concepts that had been in practice since ancient times? This is the reason ancient people were unaware about waste bin and that tradition is still prevailing some parts of rural area of the world. Urban people under the influence of modern education always look for bin to throw the waste. Height of the foolishness is when they have designed different categories of waste and place the many bins for waste management. Rural India even uses human waste as composite fertilizers for enhancing their agricultural yields. Falling of leaves from tree is natural phenomena and they never burn but use as fertilizers or herbal products for treatments of ailing of the plants. What we call organic forming is our tradition and it has been losing ground because of scientifically prepared fertilizers. Is it not our wrong education where whatever everything turns into waste that does not meet objectives? What kind of people are we developed? Are modern people not self-centered, individualistic, selfish, greedy and never wish to share with others? Is modern

person not selfish when compared to our ancestors? Society grows with love, sensitivity, care and creativity not with characteristics of modern person namely greed, self-centered, egoism, selfishness etc.

I am thankful to Prof Rachna Khare of School of Planning & architecture, Bhopal, India for accepting our invitation and her interest to showcase the works of students is clearly reflecting in this issue. The way Ms Deepshikha Sinha and Mr Piyush Verma justified their role of Guest Editor under the supervision of Prof Rachna Khare is admirable and they have touched every possible aspects of what different departments are educating for use of possible architecture & planning.

"Never waste a crisis."--Mark Rutte

With regards

Dr. Sunil Bhatia

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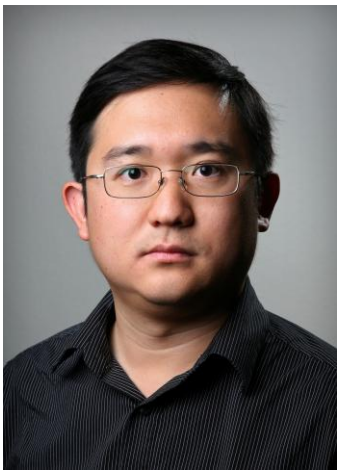
A year 2013 dedicated to young designers

May 2013 Vol-8 No-5



Dr. Kenneth Joh is an Assistant Professor in the Department of Landscape Architecture and Urban Planning at Texas A&M University, Program Coordinator of the Graduate Certificate Program in Transportation Planning, and an Assistant Research Scientist at the Texas Transportation Institute. He will be the Guest Editor of this special issue

July 2013 Vol-8 No-7

Christian Guellerin is president of Cumulus, the International Association of Universities and Schools of Design, Art and Media since 2007. The organization counts 178 establishments in 44 countries. He is also the executive director of the Ecole de design Nantes Atlantique, which trains professionals to create and innovate for socio-economic development, with an interface between technology, economics, and the sciences. Today they're expanding to China and India. He writes on design and pedagogy. He will act as philosopher & guide for this special issue and students of different streams will participate in this special issue.

August 2013 Vol-8 No-8

Dr. Antika Sawadsri PhD in Architecture, Planning and Landscape University of Newcastle upon Tyne, UK. Lecturer, School of Interior-Architectural Design (2004-present) Faculty of Architecture King Mongkut's Institute of Technology Ladkrabang (KMITL) Thailand will supervise this special issue of student designers.

September 2013 Vol-8 No-9

"Inclusive Tourism: international perspectives, accessibility and inclusion in the Brazilian tourism" is topic suggested by Prof Regina Cohen Pro-Access Group - Federal University of Rio de Janeiro and she will be Guest Editor.

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1. Guest Editorial

Despite the age old fallacies and the stigmas, the recent decades have been a testimony to the improvements in the field of accessibility in India. Many institutions and organizations have come forward and have shown sincere efforts in this regard. 'Universal design' is no more an unheard term. School of Planning and Architecture, Bhopal through its constant efforts, is one of the leaders of this endeavour in the country. In last few years, the students have shown immense interest towards universal design and accessibility. The reason behind this continuous participation is driven by the initiatives of the institute in this regard. Introduction of universal design in NSDC (National Student Design Competition), various cultural functions, seminars, workshops and lectures by national and international pioneers had been organized and the institute looks forward to continue these ventures.

The atmosphere of the college has motivated the students, teachers and also the administration to promote an environment of universal design, to let everyone think about designing elements for everyone. It was hardly two months before we made the 'call for works' for this issue of 'Design for All Newsletter', and the participation has gone beyond our expectations. From the quantity of admirable works received it was fairly evident that the students are sincerely concerned about this imperative issue, be it in terms of designing spaces, products, environment or expressing their personal views .

In this issue, we have tried to bring forth things in a specific order, starting from the Competition works for NSDC (National Student Design Competition) which has been an ice breaker for the

introduction of Universal Design competitions in India, and happened two times in last three years. It seeks the participation of students from all over the country encouraging them to think about this inevitable subject. Additionally, to stride towards universal design, we have taken this opportunity to include other socially and economically marginalized sections in the context of 'design for all'. In India there are still many places which do not have the basic facilities such as water supply, sanitation, electricity and communication, and we ought to think 'are we really designing for them all?' In this respect, students have shown their passion towards working for everyone who are apparently not counted in the 'mainstream'. They not only the contributed their articles related to disabled and elderly, but also on the design for homeless and isolated tribes. The contents also include students' essays which talk about providing accessibility in order to create a sense of understanding amongst the people. Finally, we have incorporated the expressions of the students regarding accessibility and universal design, which have been portrayed by the product designs, sketches, photographs and articles.

All the works that have been included in this 'Young Designers' issue are contributions from undergraduate students of School of Planning and Architecture, Bhopal. The authors are young design students and not accomplished writers; and we hope that the readers would enjoy their emergent design thinking and nascent style of writing. Retaining the spirit of the young designers' issue, we have tried our best to not tamper with the original works of the students in any way so that it retains its freshness, actuality and conveys their true ideas.

We have strived to culminate an understanding among the readers that it's not about providing 'special' facilities to 'special people' but about giving 'equal' and usable facilities to 'all'. We hope that our efforts live up to the expectations of everyone and prove to be successful in making 'design for all' more widespread and appealing.

Deepshikha Sinha

Piyush Verma

Prof. (Dr.) Rachna Khare

Brief bio of Editors

Deepshikha Sinha is a III year student pursuing Bachelors of Architecture (B.Arch.) at School of Planning and Architecture, Bhopal. She has been a meritorious student and has received several prizes in various academic and non-academic competitions. To her, architecture has the potential to inspire and encourage everyone, to think and work for all sections of the society. She is very good at the team work and has good compositional skills. She has written articles for leading newspapers in the state of M.P. and has worked and attended NASA (National Association of Students of Architecture) in the years 2011 and 2012. She participated and done well in a studio exercise of 'Universal Design for Exploring World Heritage Site in India' at School of Planning and Architecture, Bhopal. She can be contacted at deepshikha.spab@yahoo.com.

Piyush Verma is a III year Bachelors of Architecture (B.Arch.) student at School of Planning and Architecture, Bhopal. Along with reading and literature, his enduring fascination is with design and its socio-cultural inferences, specifically concerning the marginalized and vulnerable sections of the society. He believes that architecture can certainly bridge the gap, between the desires and realization, for the stigmatized groups. He likes blogging and has participated in various national and international writing competitions in school and college including GOI Peace Foundation International Essay Contest 2012, Japan; and was the semifinalist in the Berkeley prize Essay competition-2012 with a theme of Inclusive Design. He was the former member of Student's Council, SPA- Bhopal and is currently a part of 'Make a difference', an organization which encourages youth to become change leaders and spread grass root education to the

orphans and unprivileged children in India, helping to create self-sustaining communities. He was also involved in the studio exercise of 'Universal Design for Exploring World Heritage Site in India' at School of Planning and Architecture, Bhopal. He can be contacted at the following email address verma.piyush2@gmail.com.

Rachna Khare is a Professor of Architecture and Associate Dean of the Doctoral Programme and faculty Development at School of Planning and Architecture, Bhopal. Prior to this she was the Senior Research Fellow with Jamsetji Tata Universal Design Research Chair at National Institute of Design, Ahmedabad and taught at Birla Institute of Technology, Mesra. Starting her career in early nineties as Exhibition Officer cum Designer in Jawahar Kala Kendra, Jaipur, she practiced for nine years in the field and then taught architecture for almost twelve years.

Rachna is a recipient of the prestigious Fulbright Fellowship and was affiliated with Georgia Institute of Technology, Atlanta, USA during her PhD. Her research interests in the field of 'Universal Design' and 'Designing for Special Needs' have earned her grants and awards nationally and internationally. Apart from Fulbright award, she is recipient of IMFAR-2009, Professionals from Developing Country Award, Chicago; Friends of Fulbright India Grant-2008, Lewisburg; Universal Design Award for Working professional-2011 by NEPEDP-MPhasiS, India and R&D projects from All India Council of Technical Education and University Grants Commission in India.

She has lectured extensively on Inclusive Design all over the world and has many papers in various National and International journals and conferences to her credit. Her papers appeared in the publications like Taylor and Francis, Sage, HFES, RESNA and Archnet

MIT. Her book 'Designing Inclusive Educational Spaces for Autism' published by Institute of Human Centred Design, Boston, USA was released in 2010, and later the book received 'Certificate of Merit' in ArchiDesign Award-2010. She has also edited special issues of internationally refereed journals called 'SPANDREL'on 'Social sustenance' in 2012 and 'ABACUS' on 'Architecture for All' in 2007. Some major events organized by her are 'Universal Design Workshop' and National Student Design Competition (NSDC-2011) on 'Universal Design/Design for All'-2011 in collaboration with National Institute of Orthropaedically Handicapped, Kolkata and NSDC-2012 on 'Universal Design for Exploring World Heritage Sites in India' in collaboration with Archaeological Survey of India and UNESCO. She is one of the authors of Universal Design India Principles developed at National Institute of design, Ahmedabad in 2011.

Rachna is well known as an activist and is a founder member of MITRA and member secretary of DRONAH Foundation. She also remained convener of Kislaya for several years, a school for underprivileged children supported by 'Asha' Stanford. In her current position at SPAB, she is coordinating Centre for Human Centric Research (CHCR) that aims to build a body of knowledge that responds to the design needs of diverse human population otherwise marginalized in the past design practices. She can be contacted at rachnakhare@spabhopal.ac.in

2. CENTER FOR HUMAN CENTRIC RESEARCH (CHCR)

SCHOOL OF PLANNING AND ARCHITECTURE, BHOPAL, M.P., INDIA

SPA-Bhopal is an Institute of National Importance and is committed to produce best Architects and Planners to take up the challenges of physical and socio- environmental development of global standards. Located in Bhopal, Madhya Pradesh, the institute is set up by the Ministry of Human Resource Development, Government of India and intended to be an institute of excellence for studies in Planning and Architecture. The charter of the School of Planning and Architecture explicitly support social sustenance through universal design, cultural sustenance through conservation and environmental sustenance through the discipline of Architecture, Planning and Design. Supporting its Charter to be a socially responsible institution, a multidisciplinary Center for Human Centric Research (CHCR) is formed at SPA-Bhopal (link: www.spabhopal.ac.in).

Objectives **of this research and design development center are:**

- **Bring awareness amongst budding architects and planners to respond to the needs of diverse human population otherwise marginalized in the past design practices, for collective socio-economic-cultural development in the country.**

- **Build a research based body of knowledge with all realms of the ethnographic, qualitative and quantitative experimental paradigms, to support human centered design process.**

To attain its objectives, the center functions in four major areas, 'identification of research priority areas and networking', 'education & training', 'research & design development' and 'dissemination'.

I. **Identify the Areas of Research Priority and Network all stakeholders (SPA-faculty and students, other Institutes of higher learning, NGOs, government agencies, consumers, users and service providers like engineers, planners, designers, architects and builders) to address these priority areas. This has begun with the formation of a resource group that builds awareness with special lectures, workshops and conferences on the subject. The center has organized several Universal Design Workshops and National Student Design Competitions on the theme of Inclusive Design/Design for All/Universal Design.**

II. **Establish a National level resource center for Education and Training at School of Architecture and Planning, Bhopal, to facilitate researches addressing people centric studies in the built environment at local, regional and national level. The center offers electives and has plans to offer short-term certificate courses and specialized academic courses in the subject.**

III. **Initiate and support faculty and student Research and Design Development projects, in the identified priority areas at School of Architecture and Planning, Bhopal. The center is developing low-cost disabled friendly toilets in Anganwadi centers and**

Schools in association with Arushi and UNICEF. The center also supports undergraduate and postgraduate projects/studios and PhD research on the theme and sponsor faculty projects.

IV. Dissemination through Publications on the subject for information sharing and developing a body of knowledge that would help those architects, engineers, planners, designers and all stakeholders, who would like to work in this area. The center has published SPANDREL, an international refereed journal on 'social equity' to address needs of the vulnerable groups like Persons with Disabilities, Children and Elderly. The center is also developing a booklet with design guidelines on barrier-free schools in Hindi with illustrations, in association with an NGO Arushi. Another upcoming publication of CHCR 'Uniting Differences' is based on winning entries of a Design Competition on Inclusive Design.

Activities of CHCR at SPA-Bhopal

3. UNIVERSAL DESIGN FOR EXPLORING THE WORLD HERITAGE SITES IN INDIA - NSDC-2012

Center for Human Centric Research in School of Planning and Architecture Bhopal organized two National Student Design Competitions on Universal Design (NSDC) together with Hands-on Workshops in 2011 and 2012. The competitions were organized to explore alternative methods for teaching universal design and accomplish student motivation for the subject. The overall aim of the student competitions was to generate design solutions that optimize the whole living environment so that everyone in the community regardless of his limitations can participate equally. For NSDC 2012 'Universal Design for Exploring the World Heritage Sites in India', students attempted design interventions in one of the twenty two protected world heritage sites in India (cultural). The students were encouraged to think 'out of box' to develop imaginative solutions for universal usability, retaining original fabric of world heritage sites. The workshop was organized in collaboration with Archaeological Survey of India (ASI), UNESCO (United Nations Educational, Scientific and Cultural Organization), DRONAH (Development and Research Organization for Nature, Arts and Heritage) Foundation and National Association of Students of Architecture (NASA). The institute received outstanding response for this competition from architecture and design schools with about 170 registrations and 56 design entries. The upcoming section will describe a few competition entries by SPA students for NSDC 2012, on 'Universal Design for Exploring the World Heritage Sites in India'.

BHIMBETKA

Abhinav C.
B.Arch.
student

Sandeep Verma
B.Arch.
student

AchyutSiddu
B.Arch.
student

Vishal Ekka
B.Arch.
student

CONTEXT:

Bhimbetka is a painted rock shelter of hill rocks, formed of sandstones of Vindhyasagar group, one of the oldest geological formations. Its cultural core is spread over an area of 1892 hectares; it is within a wildlife sanctuary and surrounded by forest. The NSDC brief talks about 'Universal Design for exploring the World Heritage Sites in India'. Thus intervening a large complex site as Bhimbetka, which is spread over a considerable area, necessitates a comprehensive view, a holistic approach and a strategy that relates to its multidimensional character. Therefore, the interventions proposed are as under

- **It should benefit the society rather than providing a short term gain.**
- **It should have clear objectives, use proven methods and materials, so as to preserve the cultural core**

Thus after visiting the site a couple of times, the unique character of the site was discovered. One thing which made Bhimbetka very different from the other 'world heritage sites' was it being a natural heritage and not manmade, thus puts heritage value and universal accessibility on two opposite sides of the weighing balance.

DESIGN METHODOLOGY: *(Please refer design sheets along with the text)*

It was only after the discussion with an official of the Archeological Survey of India that our design methodology came out of the fog, 'PRESERVE', 'PROTECT' and 'PRESENT'.

- **The cultural core of Bhimbetka is spread in a Wildlife Sanctuary and surrounded by protected forest and so forms an integral part of the broad component of ecology and environment which has naturally protected the cultural core. So, that makes up for the "PROTECT" aspect of the chalked out plan.**
- **The cultural core for the trees is an essential buffer to the rock shelters and paintings against the weathering effects of strong dust laden winds. Hence, these are needed to be "PRESERVED".**
- **"PRESENTING" the site to the "world".**

ANALYSIS:

The people of the settlements in the immediate vicinity of the cultural core depend on forest produce. Modernization is inevitable but transformations have been at the cost of heritage of continuing cultural traditions. While exploitation for timber directly destroys forests, the depletion of forest covers results in the formation of grasslands and a destruction of an ecosystem that has evolved and survived hitherto undisturbed. This directly affects the cultural core for the trees.

The second aspect obstructing the "PRESERVE" plan is the entry of visitors using fossil fueled vehicles inside the cultural core. From off the NH12(Bhopal-Hoshangabad) the cultural core is about 3kms of undulating steep uphill climb to the entrance of the site, this leads to the increase in the torque of these vehicles exerting all of its

capacity to enable locomotion. This leads to considerable emission of gases which are a priority threat to the sites heritage.

This can be solved by restricting entry of fossil fueled locomotives inside the cultural core, enabling the use of battery-operated/CNG-operated locomotives. Solving the first issue, the needs of the people of the villages must be met through alternatives so that their demands on the forest are satisfied and the pressure on the forest and sanctuary are considerably lifted.

This is a long and intensive process and the methodology of our design shouldn't drift away in this direction as it wouldn't lead to anything important if the purpose of this competition is considered. This leads to the final lead of the process which is "PRESENTING" the site to the "world". After all it's no ordinary heritage site……it is a "world heritage site". Thus, the world would want to see "Bhimbetka" the way it was in the BC's. So freezing the site is what is supposed to be done if things were to be put in a cheesy way. The cultural core of Bhimbetka is the fundamental component of the "accessible" site and is invaluable in content and potential.

The site exhibit's the symbolic relationship of man and nature. This implies that the in-situ interventions should be minimal and focus should be made on enhancing the site experience through solutions which do not kill the heritage of the place. Therefore, the decision of installing minimal in-situ intervention along with an accessibility enhancing product has been taken.

DESIGN SOLUTION: *(Please refer design sheets along with the text)*

1. It is the interpretation of the site's story to visitors where the "heritage" of the site is brought to light. Interpretation makes the

site come to life for the visitors, giving the site relevance and importance. It reveals to visitors, in powerful and memorable ways, the difference between "old" and "historic".

- **Thus, an interpretation/experience center of appropriate size and composition is proposed at a convenient location. "BHIYANPURA" located at the foot of the NH12 highway has been selected for this purpose. This location is selected as it is near to the highway, at a respectable distance from the sensitive zone of the core and has mythological significance with historical remains of the "Paramaras" of the 11 century.**

2. Locomotion intervention:

- **Locomotives would be restricted near the experience center itself and transportation to the cultural core of the site would be through battery operated/ CNG dependent locomotives.**

3. Substitute pathways would be marked out on the site

- **Alternate routes have been proposed along the existing routes**
- **Routes are proposed through the 15 caves of Bhimbetka taking into consideration the topography of the site, so that the specially-abled person need not tediously go uphill or dangerously downhill.**

4. Signage in the form of bollards

- **Proposed so as to navigate visitors efficiently along the site.**
- **The signage's are in the form of a bamboo logs with information on it to ensure enhanced navigation around the site.**

5. Pathway intervention:

Rubble stone along with cement mortar pathways have been laid out by the ASI twenty two years back. The issue with the use of cement mortar is that it develops major cracks, and with rubble stones they

make the pathway an uneven surface to walk at major parts of the access route. These pathways are also majorly hit by algae.

- **Thus this issue has been tackled by laying a layer of lime mortar which is mixed with crushed sandstone and fly ash.**
- **Not only does this solve the issue of uneven pathways but also solves the issue of algae and major crack formation in case of cement mortar.**
- **The use of lime along with crushed sandstone also complements the essence of the sandstone rock shelters.**
- **As years pass, lime mortar gains strength so as to finally become a monolith.**
- **Fly ash acts as a pozzolan which enhances the mortar's compressive strength and protects it from weathering.**
- **On an event of cracking, the exposed mortar reacts with air to recrystallize reducing the loss of strength.**

6. Toilets:

Keeping in mind the number of tourists coming up to the site and considering the sensitivity of the invaluable heritage of the cultural core, installation of mobile toilets near the parking at the site along with drinking water facilities has been proposed.

7. All-terrain wheelchair:

Installation of ramps to solve the issue of terrain would be a non-innovative/an easy way to enhance accessibility around the site. But such interventions would create a 'band-aid' effect on the site, and thus in an action of enhancing the accessibility the heritage would be destroyed. The NSDC brief encourages us to "think out of the box" ….. simple enough to put it in words. How simple is "simple"? The aim was to create a "simple" accessibility enhancing product using available assistive technology. Brainstorming for solutions led

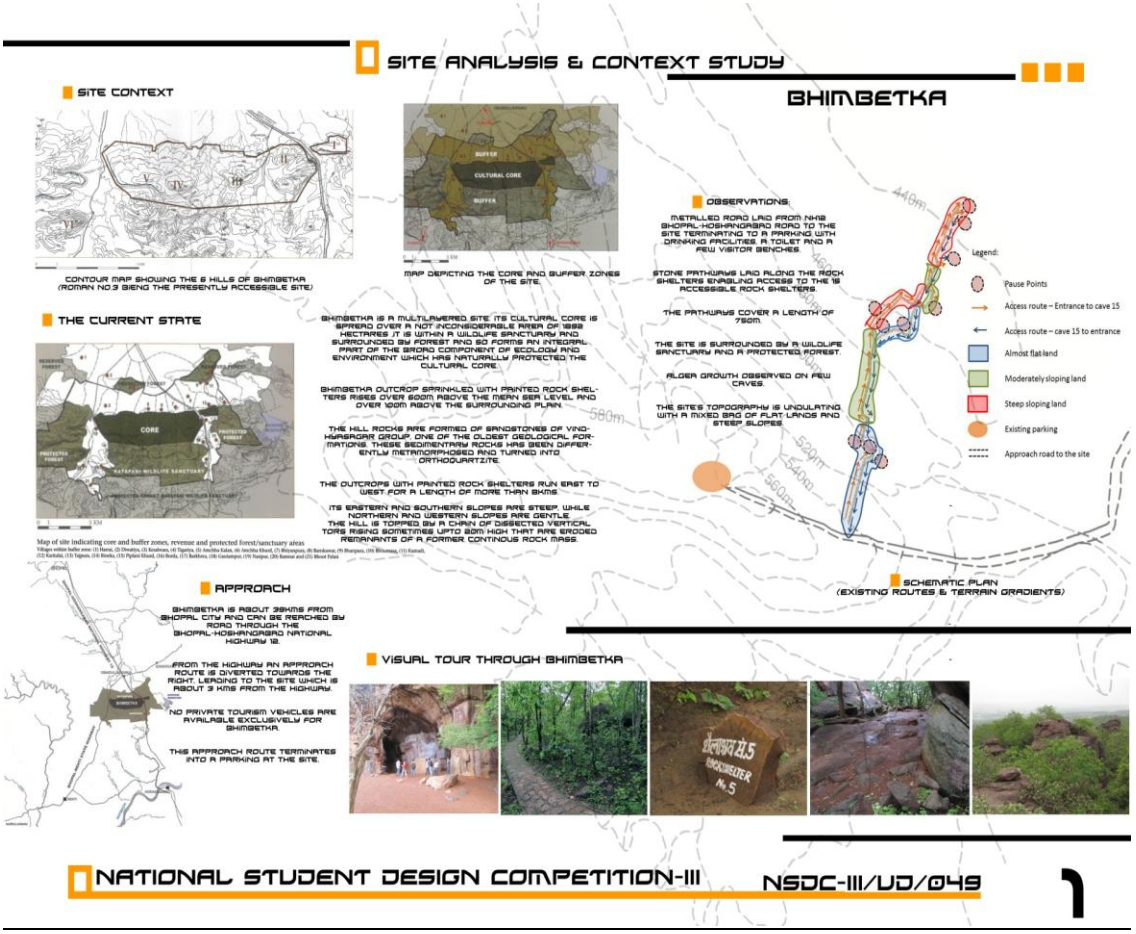
our eyes to fall upon the wheelchair, thus clearing out our aim-"To create a wheelchair that is adaptive to the uneven terrain of Bhimbetka". Considering the fact that simplicity is not accomplished by reducing complexity, the product was to be based on human needs rather than technical difficulties. The existing wheelchair is an incredible design serving the right purpose, but considering uneven sites like Bhimbetka, it is the wrong context to use the present day wheelchair.

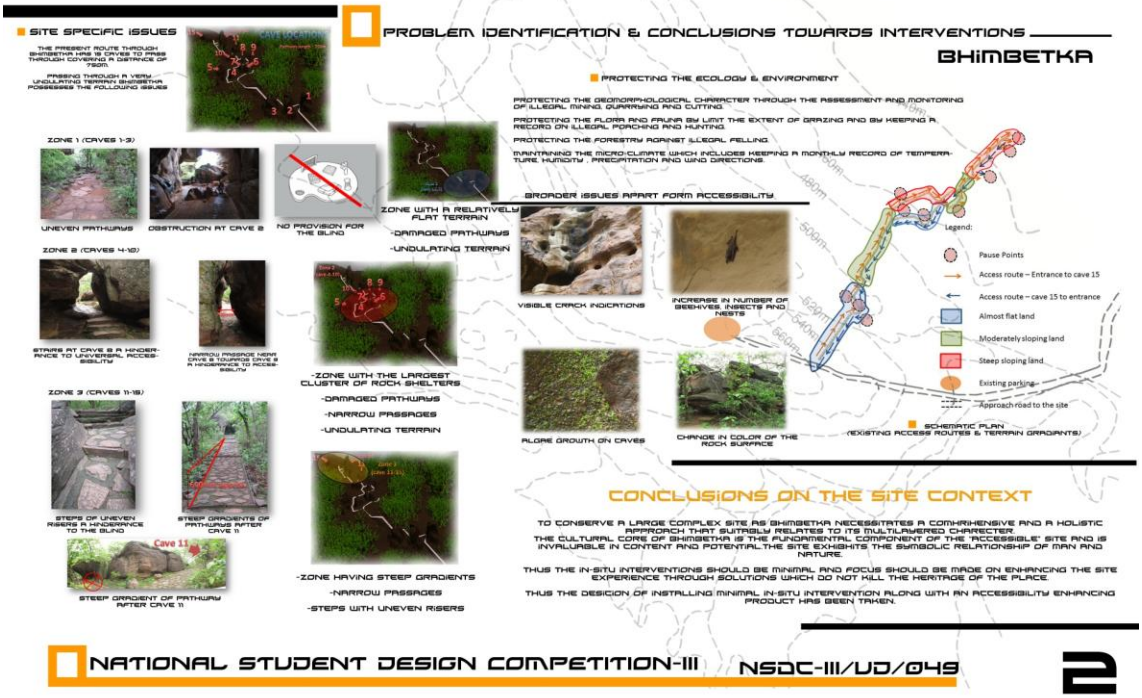
- **Thus the "all terrain wheelchair" is all about reinventing the wheel so as to make it adaptive to the topography of Bhimbetka.**
- **The "all terrain wheelchair is not only about aesthetics but very much about the function. It's also about the enhancement of self-esteem and self-respect as one would feel confident to move about in most of the terrains outside.**
- **Raising the passengers' eye level would also enhance potential exchange of verbal communication thus making the "all terrain wheelchair" not only an innovative accessibility enhancer but also a self-esteem enhancer.**

REFERENCES:

[1] Information panel at Bhimbetka Site.
[2], [3] Bhimbetka: Archeological Survey of India available at www.asi.nic.in

DESIGN SHEETS:



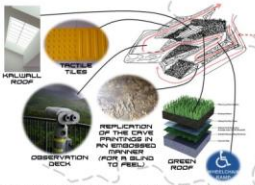


ACCESSIBILITY/HERITAGE ENHANCING INTERVENTIONS

BHIMBETKA

1# EXPERIENCE CENTER

IT IS IN THE INTERPRETATION OF THE SITES STORY TO VISITORS WHERE THE HERITAGE OF THE SITE IS BROUGHT TO LIGHT. INTERPRETATION MAKES THE SITE COME TO LIFE FOR THE VISITORS, GIVING THE SITE RELEVANCE AND IMPORTANCE. IT REVEALS TO VISITORS, IN POWERFUL AND MEMORABLE WAYS, THE DIFFERENCES BETWEEN 'OLD' AN HISTORIC



THUS AN INTERPRETATION/EXPERIENCE CENTER OF APPROPRIATE SIZE AND COMPOSITION WILL BE PROVIDED AT A CONVENIENT LOCATION.
BHIYANPURA, LOCATED AT THE FOOT OF THE NH43 HIGHWAY HAS BEEN SELECTED FOR THIS PURPOSE.

REASONS:
-JUST OFF THE HIGHWAY.
-RESPECTIBLE DISTANCE FROM THE SENSITIVE ZONE OF THE CORE.
-HAS MYTHOLOGICAL SIGNIFICANCE AND HISTORICAL REMAINS OF THE PARAMARAS OF THE 11TH CENTURY

3# ALTERNATE ROUTES FOR THE DISBLED

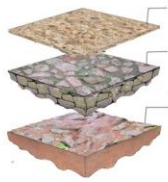
-ALTERNATE ACCESS ROUTES PROPOSED TAKING IN CONSIDERATION THE TOPOGRAPHY OF THE SITE.
-IN-SITU SIGNAGES INSTALLED FOR BETTER NAVIGATION ALONG THE SITE.

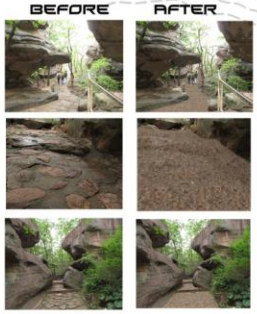
4# SIGNAGES

INFORMATION ON A BAMBOO BOLLARD

2# PATH WAY INTERVERNTION

BEFORE AFTER





ADVANTAGES OF LIME MORTAR.

-AS YEARS PASS LIME MORTAR GAINS STRENGTH SO AS TO FINALLY BECOME A MONOLITH.

-SO AS TO MERGE THE PATHWAY TO ITS SURROUNDING SANDSTONE CAVES, CRUSHED SANDSTONE IS ADDED TO THE MORTAR.

-FLY ASH ACTS AS A POZZOLAN WHICH ENHANCES THE MORTARS COMPRESSIVE STRENGTH & PROTECTS IT FROM WEATHERING.

-ON AN EVENT OF CRACKING, THE EXPOSED MORTAR REACTS WITH AIR TO RECRYSTALLIZE REDUCING THE LOSS OF STRENGTH.

ADDING A LAYER OF LIME MORTAR + CRUSHED SANDSTONE + FLY ASH AS POZZOLAN

5# KEEPING IN MIND THE NUMBER OF TOURISTS COMING UP TO THE SITE, INSTALLATION OF MOBILE TOILET NEAR THE PARKING AT THE SITE ALONG WITH DRINKING WATER FACILITIES WOULD BE CONSIDERED APT.

NATIONAL STUDENT DESIGN COMPETITION-III NSDC-III/UD/-049

3

ALL-TERRAIN WHEELCHAIR

BHIMBETKA

6#

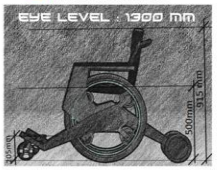
RAISING THE THE WHEELCHAIR USER'S EYE HEIGHT ENHANCES POTENTIAL EXCHANGE OF VERBAL COMMUNICATION, MAKING IT A KEY ASPECT OF ENHANCING THE SELF ESTEEM OF THE USER.

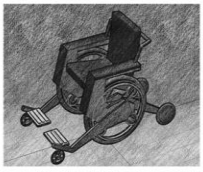
THUS THE 'ATW' BRINGS THE USER 'EYE TO EYE' TO THE WORLD

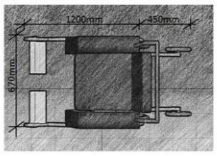
ARM REST HAS BEEN EXTENDED SLANTING FORWARD TO MAKE GETTING UP EASIER USING THEM.

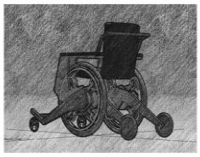
THIS PRODUCT IS BASED ON HUMAN NEEDS RATHER THAN TECHNICAL ABILITIES

KEY DIMENSIONS

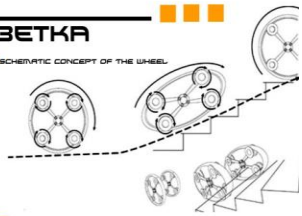




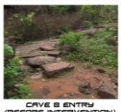




SCHEMATIC CONCEPT OF THE WHEEL

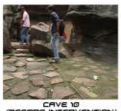


VISUALS OF THE INTERVENTIONAL TRANSFORMATIONS



CAVE 8 ENTRY (BEFORE INTERVENTION)

CAVE 8 ENTRY (AFTER INTERVENTION)



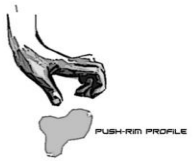
CAVE 10 (BEFORE INTERVENTION)

CAVE 10 (AFTER INTERVENTION)

THE PRESENT WHEELCHAIR IS AN INCREDIBLE DESIGN SERVING THE RIGHT PURPOSE, BUT CONSIDERING SITES LIKE BHIMBETKA....IT IS THE WRONG CONTEXT TO USE THE PRESENT DAY WHEEL CHAIR.

THUS "ATW" IS ALL ABOUT REINVENTING THE WHEEL SO AS TO MAKE IT ADAPTIVE TO THE TOPOGRAPHY OF BHIMBETKA.

THE "ATW" IS NOT ONLY ABOUT FORM, AESTHETICS AND VERY MUCH ABOUT FUNCTION. BUT REALLY IMPORTANTLY ITS ABOUT THE ENHANCEMENT OF SELF ESTEEM, SELF RESPECT AS ONE WOULD FEEL CONFIDENT TO MOVE ABOUT IN MOST OF THE TERRAINS OUTSIDE.



VISUALS OF THE DESIGN ELEMENTS

ROBUST DESIGN WITH TWO WAY WHEELS ENHANCING STABILITY

FOAM-FILLED TYRES LAID UNDER TENSION AROUND FOUR ROLLERS WHICH INTURN PIVOT TO SHOCK-RASORBERS FOR ITS ADAPTIBILTY TO TERRAIN

SUSPENSION CONNECTED REAR WHEELS EASE THE TASK OF UPHILL CLIMBS

SPECIALLY SHAPED PUSH-RIMS TO ENABLE LARGER GRIP ON THE WHEEL

PATHWAY TO CAVE 3 (BEFORE INTERVENTION)

PATHWAY TO CAVE 3 (AFTER INTERVENTION)

NATIONAL STUDENT DESIGN COMPETITION-III NSDC-III/UD/049

4

QUTUB MINAR COMPLEX

CONTEXT:

Ashwathy A., B.Arch Student

Praseeda M., B.Arch Student

Nimisha K.K., B.Arch. Student

Meghna M., B.Arch. Student

When we initially heard about the NSDC 2012 design competition , and the fact that the topic this time was physical accessibility in the World Heritage Sites, the first thing that came to our mind was wheelchairs and ramps, as I am sure 90% of people would have thought. When our group decided to take up the Qutub Minar complex as our site, a lot of people told us that our selection was not a challenging one, as the complex had already been made accessible to a certain level. And frankly speaking, our decision to choose the complex was also based on the fact that the work could be completed easily. Little did we know that a vast challenge was waiting on the other side of this decision.

We arrived at New Delhi for the site study. The first day, when we reached the complex, all of us were sitting outside the main gate, holding our maps and trying to figure out our course of survey. A foreign tourist walked up to us and asked us "Do you happen to be students of architecture?", we looked up and we saw that the man questioning us was none other than Architect WeilAtres, the famous architect from Netherlands, whose works we were pretty familiar with through our college library. We took his presence as a golden opportunity, thinking he would give us some tips that would make our problem simpler. When we explained our design problem to him, he asked us one simple question-What do you mean by physically disabled? And that's when we realized that physically disabled is something that has to do more than just wheelchairs and ramps. It can mean various things, and we

have tried to include solutions for as much universality in our design as we could think of.

DESIGN METHODOLOGY: *(Please refer design sheets along with the text)*

Pre site visit studies: We referred a few books on the history of Qutub Minar, to find out more about the historical importance of the different structures in the complex, so that no changes that may affect the history of the place are made. And also to figure out the basic layout of the structures of the Qutub Minar complex.
On site studies: We followed a 3 day methodology to cover the entire site.

DAY 1: As tourists, we visited the site, to understand the problems from an outsider's point of view. This approach helped us to figure out the basic problems tourists face when they come to this place. The same day, we interviewed the following categories of people whom we found in the complex are facing difficulties:

1. A woman in a wheelchair: This lady in a wheelchair was having difficulty in moving, as the surface was quite uneven. As a result of this, she had to wait by herself at the entrance till her family returned after seeing the complex. When asked for suggestions, she said that if the flooring was smoothened out, wheelchair movement could be much easier, as sufficient ramps for movement were already provided.

2. Pregnant woman: We followed a pregnant lady as she went around the site. At the end when we asked her how comfortable her experience was, she told us that the high risers in all the sets of

steps were making her movement difficult, as it is difficult to cope with them while carrying.

3: An aged couple: Their problems were similar to those of the pregnant woman. High risers were making it difficult for them to climb to the higher structures.

Other than this, a lack of sufficient number of toilets, wheelchair accessible toilets, drinking water facilities and cloak rooms were some of the problems we discovered on the first day of study.

DAY 2: On the second day, we divided the entire site into different zones, and did a zone to zone SWOT analysis of the entire site.

Zone 1: The parking lot, and the entrance area.
Zone 2: The Mughal gardens, and the area up to the Qutub Minar
Zone 3: The Qutub Minar, Iron pillar, Alai Minar, Alai Darwaza
Zone 4: Khilji's tomb, Illtutmish's tomb, the Madrasa (college)
Zone 5: Gardens and open areas on the side

Zone 1: The parking was vast, and there was sufficient space, but it was on the opposite side of the road of the entrance, and vehicles kept passing through the area, so the crossing was proving a little dangerous. The same was the case with the ticket counter, as that was also on the opposite side of the road. The audio guide centre had guides in many foreign languages, but not in local Indian languages, and as we considered linguistic disability as a physical disability, this was a huge drawback of the site. The information board written in Hindi or English may be illegible to an Indian unknown to these two languages
Zone 2: The entrance was accessible by all, and so was the checking counter. The Mughal garden area and the mosque had smooth

flooring so wheel movement was not difficult. But there were no tactile surfaces provided for the Blind, nor was there any information board in Braille. The steps on the main plinth were provided with a proper ramp too.

Zone 3:

The Qutub Minar:

The area around the minar was not feasible for any wheel movement. The flooring had to be smoothened out. There were no tactile surfaces for movement of the blind, which was a common problem for the entire complex. Not enough information boards and signage. A person looking at the minar could be easily confused as to where to go next.

***The Iron Pillar*:**

There was a ramp provided for easy movement to the Iron pillar level from the level below, but there was a small level difference on the level, and the flooring was extremely irregular. The flooring was so problematic that even a perfectly normal person would not be able to walk on it comfortably. There was no exit path for wheelchairs to the other side, i.e., the side of the Alai Minar.

***Alai Darwaza*:**

The entrance ramp to the darwaza is not of the proper gradient. The ramp is not constructed of proper materials.

Movement of wheelchairs from the darwaza is not feasible as the plinth level is too high, and ramps cannot be provided.

***Alai Minar*:**

The approach to the alaiminar is fine, but the area around the minar is not accessible for a wheelchair. The zone has no washrooms, which is very important, as this is the main sightseeing zone.

Zone 4: Level differences, sudden steps, high risers, and lack of washrooms are the main problems in this zone. The rooms of the madrasa can be utilized in various ways. A food kiosk can be provided in the area.

Zone 5: This area has a few abandoned plinths which can be utilized to various extents; one of the smaller plinths can be used to create a small scaled model of the complex. The bigger plinth can be used to create an amphitheater for a light and sound show of the history of the Qutub Minar complex.

Swot Analysis of the Entire Site:

Strengths:
-Tactile surface at the entrance
-Special ticket counters for Indians, foreigners and physically disabled
-Information centre (with audio guide)
-Recreational area
-Existing plinths
-Large green cover area, hence apt area for recreation

Weakness:
-Level differences
-High risers
-Uneven flooring
-Lack of signage
-No communication means (Braille inscriptions) for vision impaired
-Lot of dark corners such as graveyards, unidentified tombs
-Inconveniences caused by auto drivers and hawkers

Opportunity:
-No special disabled parking

-No accessible ramps

-No kerb cuts

-Small entrances

-Slopes

-Location of washroom

-Level differences

-No signs or maps

-Uneven path

Threat:

-Vibrations caused by the traffic may harm the structure

-Area prone to lightning and thunder

-Structure prone to vandalism

-Natural erosion of the structure

DAY 3: The third day was spent in visiting the ASI (Archaeological Survey of India) office, at Safdarjung Tomb, New Delhi, and also the office of the organization "Svayam" who had been responsible for the current status of accessibility at the Qutub Minar complex, to collect valuable information regarding the site.

DESIGN SOLUTIONS: *(Please refer design sheets along with the text)*

-Proper ramps provided in all the necessary areas

-Flooring smoothened out for easy accessibility of wheelchairs and prams

-Extra risers provided in between steps to help climbing motion

-Accessible toilets provided where necessary

-Golf car course provided for movement around the complex

-Seating facilities provided around the complex

Suggestions to improve the quality of experience:

-Amphitheatre

-Scaled down model of the complex

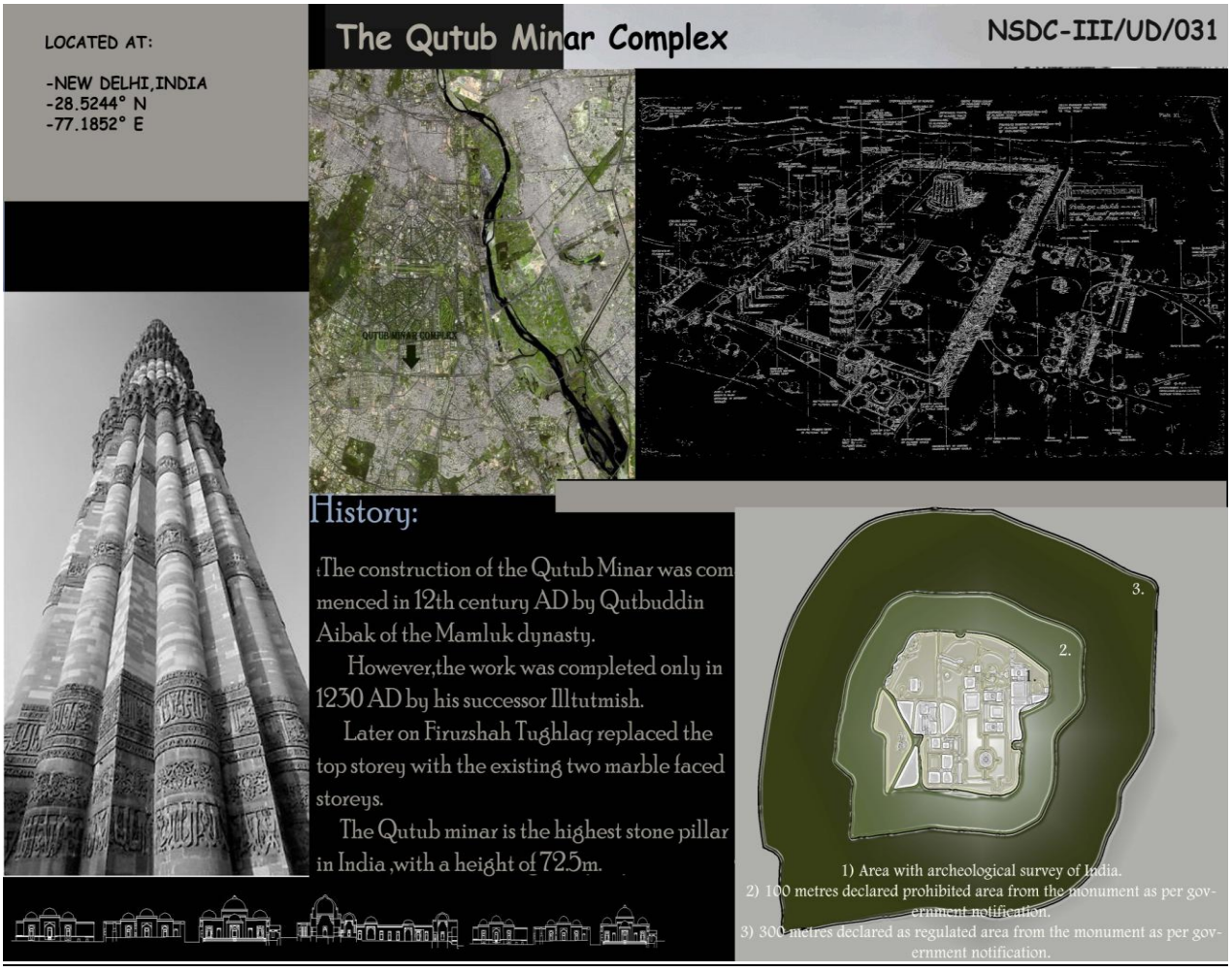
-Pet garden near the tombs

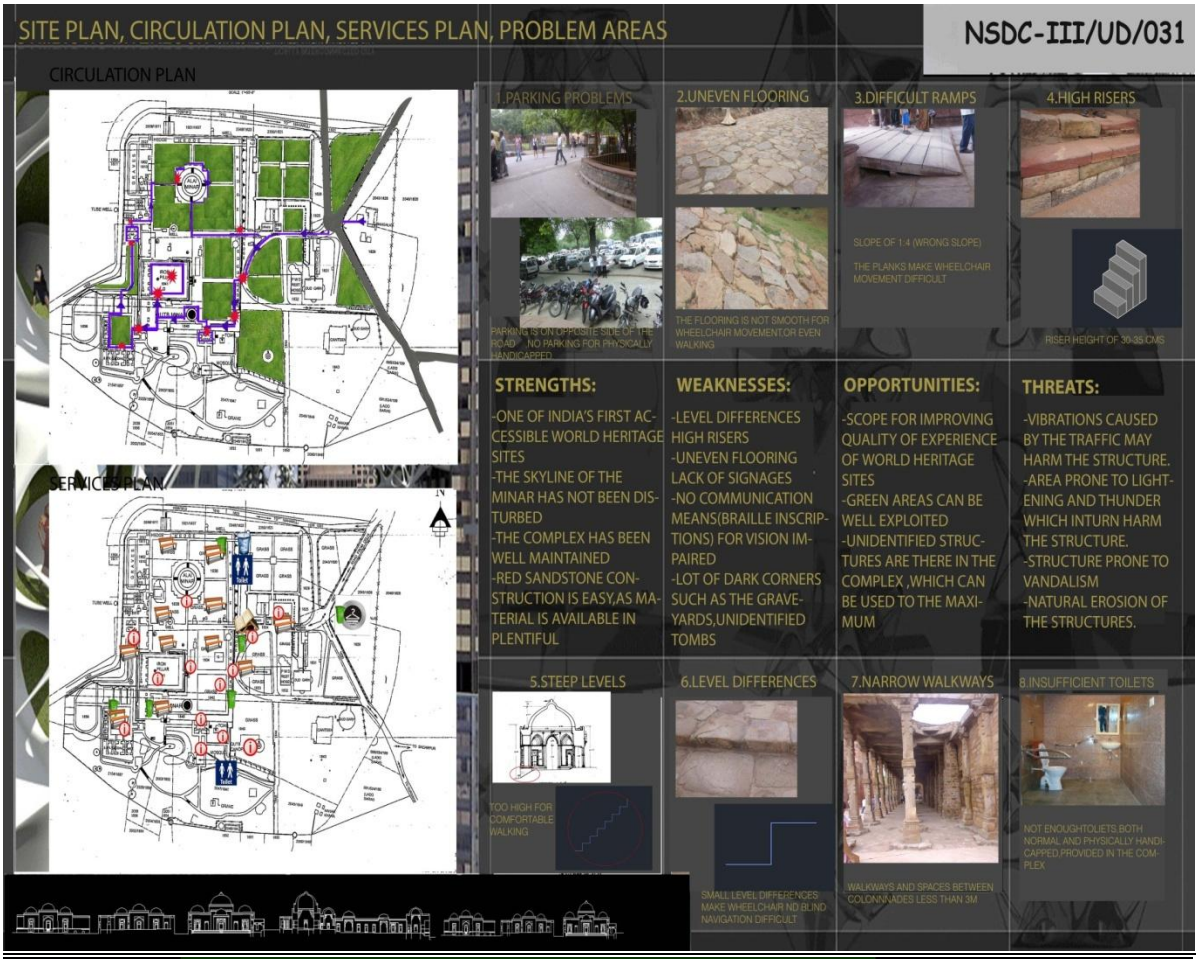
-Food and book store kiosk

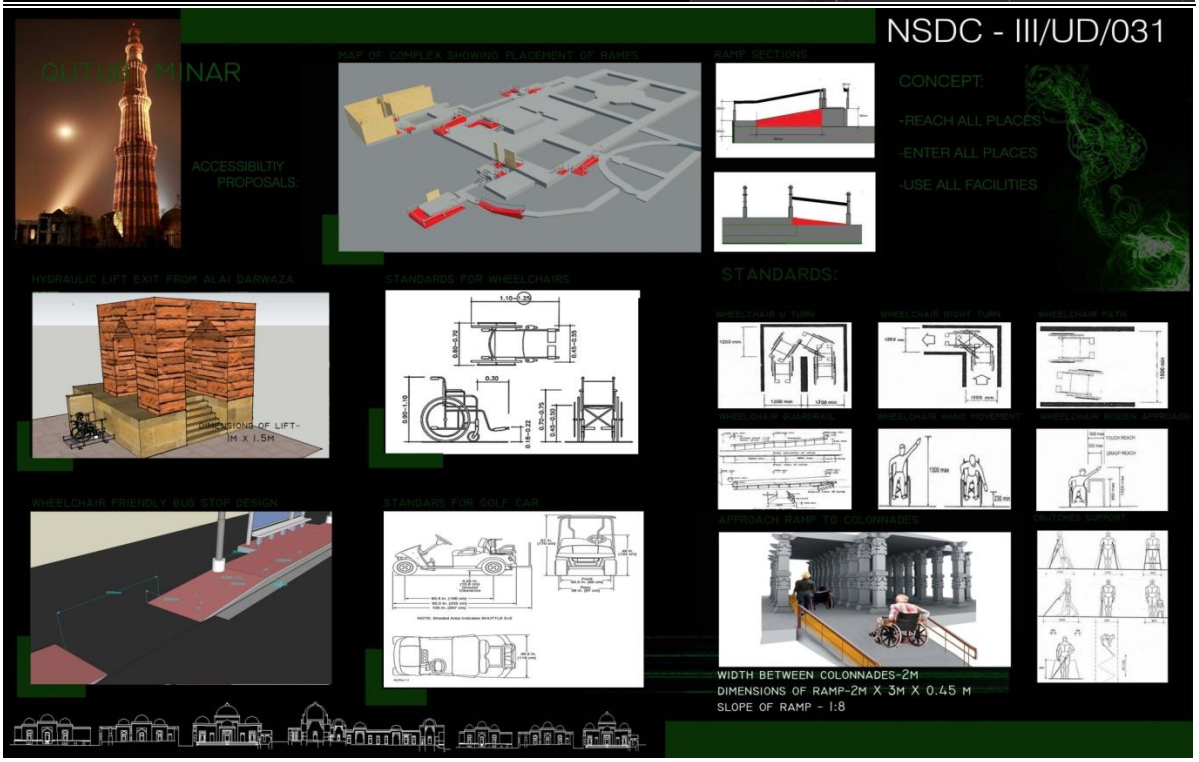
-Multi-purpose walking stick

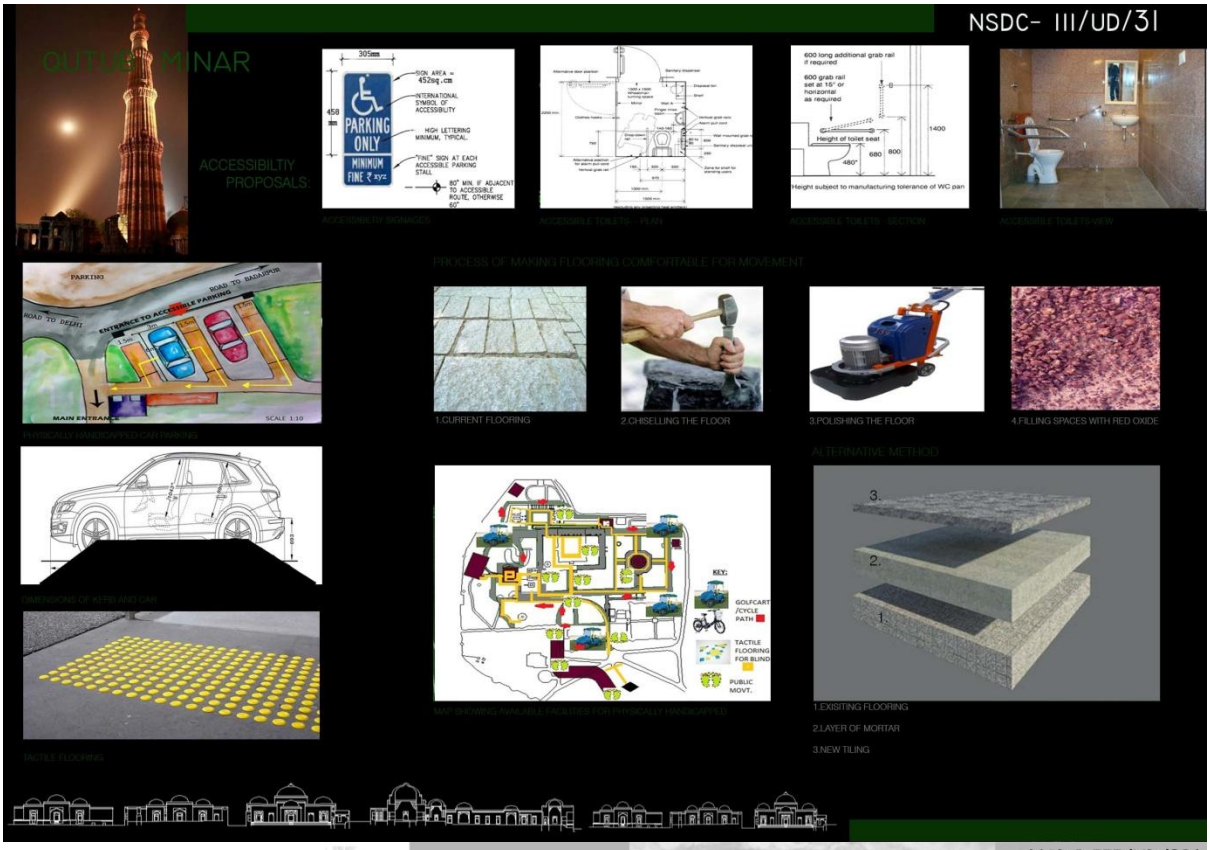
-Multi lingual audio guides

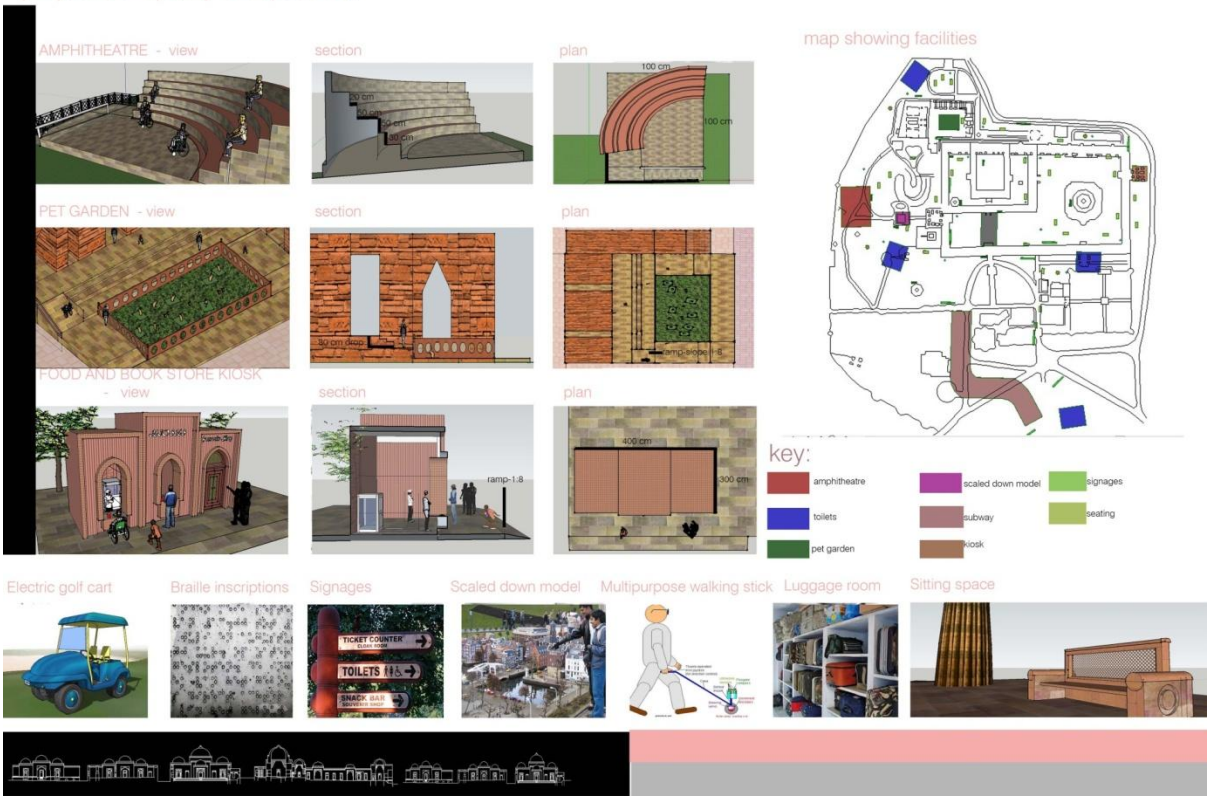
DESIGN SHEETS:




SITE PLAN, CIRCULATION PLAN, SERVICES PLAN, PROBLEM AREAS
NSDC-III/UD/031
CIRCULATION PLAN
SERVICES PLAN
1.PARKING PROBLEMS
PARKING IS ON OPPOSITE SIDE OF THE ROAD . NO PARKING FOR PHYSICALLY HANDICAPPED.
2.UNEVEN FLOORING
THE FLOORING IS NOT SMOOTH FOR WHEELCHAIR MOVEMENT,OR EVEN WALKING
3.DIFFICULT RAMPS
SLOPE OF 1:4 (WRONG SLOPE)
THE PLANKS MAKE WHEELCHAIR MOVEMENT DIFFICULT
4.HIGH RISERS
RISER HEIGHT OF 30-35 CMS
STRENGTHS:
-ONE OF INDIA'S FIRST ACCESSIBLE WORLD HERITAGE SITES
-THE SKYLINE OF THE MINAR HAS NOT BEEN DISTURBED
-THE COMPLEX HAS BEEN WELL MAINTAINED
-RED SANDSTONE CONSTRUCTION IS EASY,AS MATERIAL IS AVAILABLE IN PLENTIFUL
WEAKNESSES:
-LEVEL DIFFERENCES HIGH RISERS
-UNEVEN FLOORING
LACK OF SIGNAGES
-NO COMMUNICATION MEANS(BRAILLE INSCRIPTIONS) FOR VISION IMPAIRED
-LOT OF DARK CORNERS SUCH AS THE GRAVEYARDS,UNIDENTIFIED TOMBS
OPPORTUNITIES:
-SCOPE FOR IMPROVING QUALITY OF EXPERIENCE OF WORLD HERITAGE SITES
-GREEN AREAS CAN BE WELL EXPLOITED
-UNIDENTIFIED STRUCTURES ARE THERE IN THE COMPLEX ,WHICH CAN BE USED TO THE MAXIMUM
THREATS:
-VIBRATIONS CAUSED BY THE TRAFFIC MAY HARM THE STRUCTURE.
-AREA PRONE TO LIGHTENING AND THUNDER WHICH INTURN HARM THE STRUCTURE.
-STRUCTURE PRONE TO VANDALISM
-NATURAL EROSION OF THE STRUCTURES.
5.STEEP LEVELS
TOO HIGH FOR COMFORTABLE WALKING
6.LEVEL DIFFERENCES
SMALL LEVEL DIFFERENCES MAKE WHEELCHAIR ND BLIND NAVIGATION DIFFICULT
7.NARROW WALKWAYS
WALKWAYS AND SPACES BETWEEN COLONNADES LESS THAN 3M
8.INSUFFICIENT TOILETS
NOT ENOUGHTOILETS BOTH NORMAL AND PHYSICALLY HANDICAPPED PROVIDED IN THE COMPLEX


NSDC - III/UD/031
QUTUB MINAR
ACCESSIBILTIY PROPOSALS:
MAP OF COMPLEX SHOWING PLACEMENT OF RAMPS
RAMP SECTIONS
CONCEPT:
-REACH ALL PLACES
-ENTER ALL PLACES
-USE ALL FACILITIES
HYDRAULIC LIFT EXIT FROM ALAI DARWAZA
DIMENSIONS OF LIFT- 1M X 1.5M
STANDARDS FOR WHEELCHAIRS
STANDARDS:
WHEELCHAIR FRIENDLY BUS STOP DESIGN
STANDARDS FOR GOLF CAR
APPROACH RAMP TO COLONNADES
WIDTH BETWEEN COLONNADES-2M
DIMENSIONS OF RAMP-2M X 3M X 0.45 M
SLOPE OF RAMP - 1:8


NSDC- III/UD/31
QUTUB MINAR
ACCESSIBILTIY PROPOSALS:
PARKING ONLY
MINIMUM FINE ₹ xyz
PROCESS OF MAKING FLOORING COMFORTABLE FOR MOVEMENT
1.CURRENT FLOORING
2.CHISELLING THE FLOOR
3.POLISHING THE FLOOR
4.FILLING SPACES WITH RED OXIDE
ALTERNATIVE METHOD
1.EXISITING FLOORING
2.LAYER OF MORTAR
3.NEW TILING
KEY:
GOLFCART /CYCLE PATH
TACTILE FLOORING FOR BLIND
PUBLIC MOVT.
NSDC-III/UD/031


proposals - quality of experience
AMPHITHEATRE - view
section
plan
PET GARDEN - view
section
plan
FOOD AND BOOK STORE KIOSK - view
section
plan
map showing facilities
key:
amphitheatre
scaled down model
signages
toilets
subway
seating
pet garden
kiosk
Electric golf cart
Braille inscriptions
Signages
Scaled down model
Multipurpose walking stick
Luggage room
Sitting space
TICKET COUNTER
TOILETS
SNACK BAR

SANCHI

CONTEXT:

Abhishek S. B.Arch. student

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NiteshVerma .B.Arch. student

Navankur S. B.Arch. student

Sanchi known for its "Stupas", is a small village in Raisen District of the state of Madhya Pradesh, India, it is located 46 km north east of Bhopal, and 10 km from Besnagar and Vidisha in the central part of the state of Madhya Pradesh. It is the location of several Buddhist monuments dating from the 3rd century BCE to the 12th CE and is one of the important places of Buddhist pilgrimage. Universal access is about ensuring independence and dignity for all users entering and using places. Our aim was to improve the accessibility of the Sanchi for everyone and enhance the overall experience of the site.

DESIGN METHODOLOGY: *(Please refer design sheets along with the text)*

Very first step was to access the site and cite the problem areas. We opted for trip chain method and a user-based approach. Trip chain method is apt till Stupa 1. And, then we had to proceed with the user-based approach.

We zoned out the site and penned down the problem areas with accessible and inaccessible regions, talked to local people and the authorities to know more about the lacunas and redressals whence forth. The site was segregated, and the problem areas were tackled one at a time and, simultaneously trying to improve visitor's experience.

ANALYSIS:

Various barriers were identified and categorised into following heads:

- **Organizational**
- **Physical**
- **Intellectual**
- **Sensory**
- **Social and cultural**
- **Financial**

Major emphasis has been laid over eradicating the physical barriers.

DESIGN SOLUTION: *(Please refer design sheets along with the text)*

The accessibility till stupa 1 is good. It can be accessed by all using the accessible pathway. But after that, accessibility is highly hindered due to contours and change in topography.

Pathway:

We intervened into the site by developing a pathway with an even gradient where shuttle carts could travel. These carts can carry any physically challenged person or pregnant women to travel throughout the accessible path. Shelter stoppages are provided along the route with proper seating and shaded areas. The width of the pathways has been increased to nullify the hindrance caused due to shuttle carts on pathways.

Ramps:

Proper gradient ramps at the entrance and the parking have been provided to ensure easier circulation. The use of ramps at various places within the site has been added to further help in the user friendly approach. A ramp has been introduced with a gradient of 1:12 to deal with the level difference of 7.1 meters when we walk from stupa 1 to the monastery leading to the Stupa 2. The proper

gradient of ramp will not only serve the shuttle carts' easier movement but will also prove beneficiary in the movement of standard user.

Ropeway:

Another design intervention done at the site is the introduction of an aerial ropeway. It is one of the most efficient and feasible type of system for carrying people at high gradients or slopes. The ropeway has been provided from bottom of the Sanchi complex hill and can be used conveniently by people visiting Sanchi without any vehicle.

Signage:

The main purpose of signage is communication, to convey information such that its receiver can make cognitive decisions based on the information provided. The site lacked signage, so a signage has been designed with particular pictograms and platforms of suitable height(s) for no visual barriers and legibility. Three major types proposed are as under:

(a) Informational: signs giving information *locating* main spots, services and facilities, e.g. maps.

(b) Directional: signs *leading* to services, facilities, functional spaces and key areas, e.g., sign posts, directional arrows for toilets, drinking water etc.

(c) Identificational: signs *indicating* services and facilities, e.g., room names & numbers, toilet signs, etc.

There's already a provision of audio compasses at the site, we basically have improvised it by adding GPS to it. These GPS enabled audio compasses can guide the user to the entire site, visually

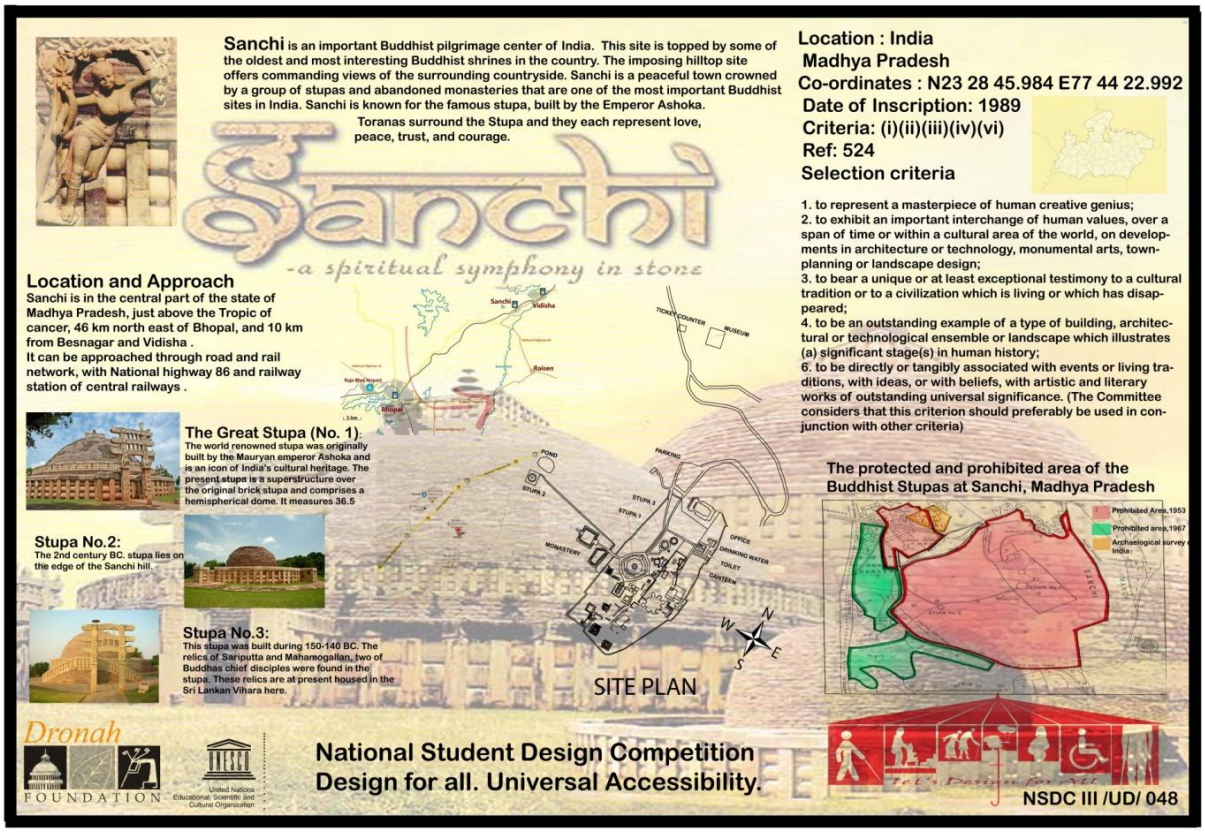
impaired will be benefitted as this will enable them to know the distance too. For better GPS, local transmitters are added to the entire site in a grid pattern to facilitate the precise calculation of the distance.

(d) Toilets and public facilities: Proper considerations have been taken into account for the public facilities like the toilets and water coolers. Extended pathways with tactile flooring and handrails have been designed. A universally designed path has been the main objective which leads to a perfect toilet area designed for physically challenged, keeping in mind the wheelchair circulation within the toilet, washbasin height, WC height, handrail and other supporting rails both vertically and horizontally.

DESIGN SOLUTION: *(Please refer design sheets along with the text)*

We made some design interventions to make the Sanchi complex more accessible by feasible techniques and simple mechanisms. We aim to make the complex fully accessible and user friendly by simple approach. We also took into considerations the overall prospect of the heritage site e.g. aerial ropeway would provide an excellent view point of the high stupas and thus acting as an excellent way to improve tourism.

SHEETS: *(continued in next page)*


Sanchi is an important Buddhist pilgrimage center of India. This site is topped by some of the oldest and most interesting Buddhist shrines in the country. The imposing hilltop site offers commanding views of the surrounding countryside. Sanchi is a peaceful town crowned by a group of stupas and abandoned monasteries that are one of the most important Buddhist sites in India. Sanchi is known for the famous stupa, built by the Emperor Ashoka.
Toranas surround the Stupa and they each represent love, peace, trust, and courage.
Sanchi
-a spiritual symphony in stone
Location : India
Madhya Pradesh
Co-ordinates : N23 28 45.984 E77 44 22.992
Date of Inscription: 1989
Criteria: (i)(ii)(iii)(iv)(vi)
Ref: 524
Selection criteria
1. to represent a masterpiece of human creative genius;
2. to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;
3. to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;
4. to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;
6. to be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. (The Committee considers that this criterion should preferably be used in conjunction with other criteria)
Location and Approach
Sanchi is in the central part of the state of Madhya Pradesh, just above the Tropic of cancer, 46 km north east of Bhopal, and 10 km from Besnagar and Vidisha .
It can be approached through road and rail network, with National highway 86 and railway station of central railways .
Sanchi
Vidisha
Raisen
Bhopal
TICKET COUNTER
MUSEUM
The Great Stupa (No. 1)
The world renowned stupa was originally built by the Mauryan emperor Ashoka and is an icon of India's cultural heritage. The present stupa is a superstructure over the original brick stupa and comprises a hemispherical dome. It measures 36.5
Stupa No.2:
The 2nd century BC. stupa lies on the edge of the Sanchi hill
Stupa No.3:
This stupa was built during 150-140 BC. The relics of Sariputta and Mahamogallan, two of Buddhas chief disciples were found in the stupa. These relics are at present housed in the Sri Lankan Vihara here.
POND
PARKING
STUPA 2
STUPA 3
STUPA 1
MONASTERY
OFFICE
DRINKING WATER
TOILET
CANTEEN
N
W
E
S
SITE PLAN
The protected and prohibited area of the Buddhist Stupas at Sanchi, Madhya Pradesh
Prohibited Area,1953
Prohibited area,1967
Archaeological survey of India
Dronah
FOUNDATION
United Nations Educational, Scientific and Cultural Organization
National Student Design Competition
Design for all. Universal Accessibility.
NSDC III /UD/ 048

Accessibility
To give every member of our society a chance to have boundation free acess in and around the world heritage sites across India regardless of their disablities is the aim of this year's NATIONAL STUDENT'S DESIGN COMPETITION.
People with vision impairement , movement aiding appendages ,old people and pregnant women in general face neglection in these situations .
To cater to their disadvantages and providing barrier free environment is our GOAL.
Sanchi
Parking
the section of parking
Present condition parking
No separate parking spaces for disabled
No proper well defined parking spaces
Uneven terrain
No proper signages
Proposed parking
Parking spaces for disabled
Well defined parking spaces for two wheeler, four wheeler, buses, and for PWD.
Even terrain with 1:18 slope
Proper signages
PWD
Existing accessible path
Total pathway of the complex
Zoning
The site has been categorized into two differnt zones as per circulation of the physical challeneged:
1. easy accessible
2.not easily accessible
3.not accessible
The site section shows the various attractions at sanchi with reference to their latitudes.
1.M.P.Tourism resort
2.Ticket booth and A.S.I. Museum
3.Parking and entrance
4.Stupa 1
5.Monastry
6.Stupa 2
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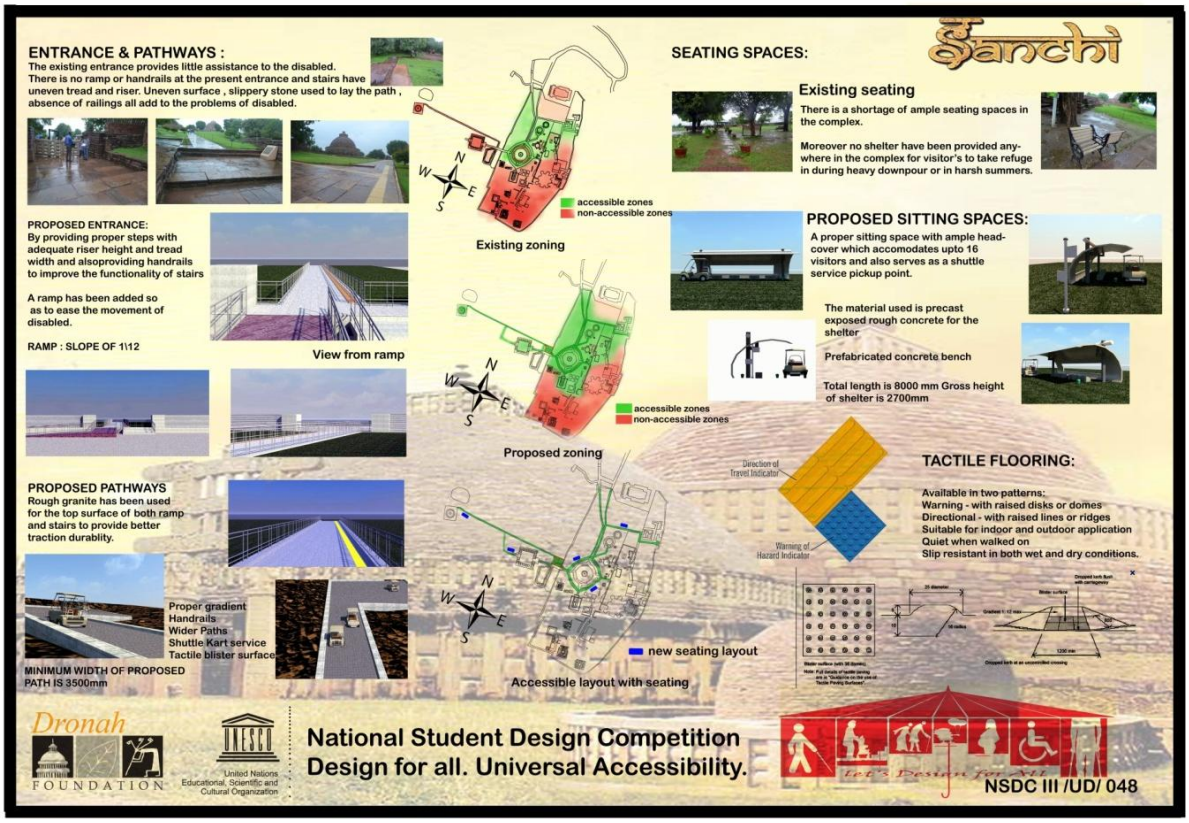
ENTRANCE & PATHWAYS :
The existing entrance provides little assistance to the disabled.
There is no ramp or handrails at the present entrance and stairs have uneven tread and riser. Uneven surface , slippery stone used to lay the path , absence of railings all add to the problems of disabled.
PROPOSED ENTRANCE:
By providing proper steps with adequate riser height and tread width and alsoproviding handrails to improve the functionality of stairs
A ramp has been added so as to ease the movement of disabled.
RAMP : SLOPE OF 1\12
View from ramp
PROPOSED PATHWAYS
Rough granite has been used for the top surface of both ramp and stairs to provide better traction durablity.
Proper gradient
Handrails
Wider Paths
Shuttle Kart service
Tactile blister surface
MINIMUM WIDTH OF PROPOSED PATH IS 3500mm
accessible zones
non-accessible zones
Existing zoning
accessible zones
non-accessible zones
Proposed zoning
new seating layout
Accessible layout with seating
SEATING SPACES:
Sanchi
Existing seating
There is a shortage of ample seating spaces in the complex.
Moreover no shelter have been provided any-where in the complex for visitor's to take refuge in during heavy downpour or in harsh summers.
PROPOSED SITTING SPACES:
A proper sitting space with ample head-cover which accomodates upto 16 visitors and also serves as a shuttle service pickup point.
The material used is precast exposed rough concrete for the shelter
Prefabricated concrete bench
Total length is 8000 mm Gross height of shelter is 2700mm
TACTILE FLOORING:
Available in two patterns:
Warning - with raised disks or domes
Directional - with raised lines or ridges
Suitable for indoor and outdoor application
Quiet when walked on
Slip resistant in both wet and dry conditions.
Direction of Travel Indicator
Warning or Hazard Indicator
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Toilets
Drinking water
KEEP THE AREA CLEAN
Drinking water
the drinking water facility has no proper drainage.
the tap height is high
not designed for physically handicapped
The existing toilets were not designed for the physically handicapped.
it had no separate provisions for urinals, washbasins, and well equipped toilets.
the handrails were missing
Sectional plan
Toilet section
Signage
Sanchi
Some existing signage
Existing signage are not easily readable
They are not available in different languages
the viewing angle in not proper
lack of signage at various structures
Sanchi Stupa
ACCESSIBLE ROUTE TO STUPA
OFFICE
DRINKING WATER
TOILETS
Placed at the main pathway
Proposed signage
The specially designed signage for wheel chair bound people enables them to have a clearer look at the information boards
RESERVED PARKING
Parking for disabled has been designed separately with proper considerations ramp,curbs,spacings,adjacent to accessible path
1500mm
2000mm front elevation
angle 15-20 degree
1500mm
400mm side elevation
Proposed toilet
DISABLED TOILETS
Lower height WC (460-480mm)
vertical handrail
wheel chair space
wide door entrance (>900mm)
use of handrails (h=700mm)
washbasin at low height (800mm)
angled mirror at 500mm
dustbin in corner
Ticket counter
CANTEEN
1.Ticket counter placed down the slope
2.No proper signage. or highlighted boards.
3.No guards
4.Path and counters not universally designed
Canteen must be kept clean and tidy
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Sanchi
AERIAL ROPEWAY
Simple, inexpensive yet powerful technology.
One of the most energy-efficient forms of transporting goods and people. Relatively easy and quick to set up, operate and take down again.
The most common materials used for constructing ropeways were first wood/fiber and then steel/steel ropes.
The introduction of steel ropes and electric motors was a major efficiency boost, so these should probably be the preferred option.
Advantages of ropeways :
Structural efficiency:
Ropeways are tensile structures - structures loaded primarily in tension -
which makes them inherently more efficient than structures with significant bending and compressive loads.
Economy.
Mainly a result of structural efficiency (above), but also the result of having multiple cars propelled by a single power-plant and drive mechanism.
This reduces both construction and maintenance costs. The use of a single operator for an entire ropeway is a further saving, in labor cost.
On level ground, the cost of ropeways is competitive with narrow-gauge railroads; in the mountains the ropeway is far superior.
Ability to handle large slopes:
Ropeways and cableways (cable cranes) can handle large slopes, and large differences in elevation.
Where a road or railroad needs switchbacks or tunnels, a ropeway travels straight up and down the fall line.
Low footprint:
The fact that only narrow-based vertical supports are needed at intervals, leaving the rest of the ground free,
makes it possible for ropeways to be constructed in built-up areas and in places where there is intense competition for land use.
Safety.
There is no danger of collision between cars, or between ropeway cars and other modes of transportation - except aircraft of course.
Elevation of trolley
Side section of ropeway
station 1
station 3
station 2
Plan showing 3 stations
for the ropeway route
Ropeway section
Why ropeways should be used ?
For people who live in remote, mountainous areas, getting food to market in order to earn enough
money to survive is a serious issue.The hills are so steep that travelling down them is dangerous.
A porter can help but they are expensive, and it would still take hours or even a day.
The journey can take so long that their goods start to perish and become worth less and less.
Practical Action have developed an ingenious solution called an aerial ropeway.
It can either operate by gravitation force or with the use of external power.
Shuttle carts
Electric carts provide an ideal way to shuttle employees or
guests around any large facility or campus.
Battery power lets them travel indoors and out without any
emissions that can create hazardous breathing conditions.
Carts are always ready to go, quiet and easy to operate.
The wheel chair accessible cart
View showing closed ramp
proposed shuttle cart
The proposed shuttle cart features an electric universally
designed shuttle cart for easier accessibility for elderly
people , wheel chair bound, pregnant women,
children, and others.
passway for carts on ramp
cart parking
the cart parking has been designed
adjacent the main parking area.
the cart route has been directly
connected to the ramp provided in the
existing site.
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Design for all. Universal Accessibility.
let's Design for All
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CHHATRAPATI SHIVAJI TERMINUS, MUMBAI

CONTEXT:

Noopur K., B. Arch. Student

Varsha C., B. Arch. Student

Prerna Jindal, B. Arch. Student

Sushil Kumar, B. Arch.

Built by the East India Company in 19th century, situated in the southern part of Mumbai, Maharashtra, Chhatrapati Shivaji Terminus is one of the busiest railway stations in India, and serves suburban Mumbai commuters as well as the passengers of central railways.

Presently this historic building serves as the headquarters of the central railways, and is supposed to be converted into a museum soon after it has been declared a world heritage site in 2004.

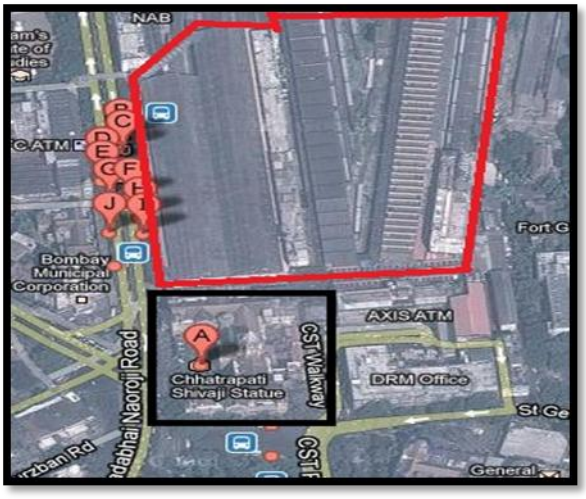
With its cathedral like facade, the train station is a historical landmark of Mumbai and is arguably the finest example of the city's Gothic buildings. Its remarkable stone dome, turrets, pointed arches and eccentric ground plan are close to traditional Indian palace architecture. Italian marble, sandstone and limestone are the materials originally used in the building.

DESIGN METHODOLOGY: *(Please refer design sheets along with the text)*

There are a number of shortcomings in the accessibility of the area like Parking area, Entrance way, suburban railways platforms. For the analysis of problem areas, we searched for the information about the site from the internet, from local public etc.

With the help of marked spaces on the map, we analyzed each area for its shortcomings and prepared a list. Our survey was done in two parts: The survey was conducted with few points on focus:

- **Studying the connectivity of the site.**
- **Check if the entrances to the site are universally accessible or not.**
- **Study the circulation pattern inside the heritage building, for all types of users.**
- **Classifying the users: the able bodied people, the especially abled, the pregnant, the elderly and the kids.**
- **Studying the toilets and water facilities with respect to its location and accessibility by different categories of users.**



The platform and the main heritage building (The area enclosed in red boundary is the platform.)

ANALYSIS:

1) **Entrances: not universally accessible, since all entries are through staircases, from platforms as well as through main entrance.**
2) **Circulation: not smooth for all types of users, because of many abrupt level differences.**
3) **Toilets: not universally designed.**
4) **Stairs: improper railings and handrails, as well as insufficient lighting.**
5) **Information boards: not at all installed.**

DESIGN SOLUTION: *(Please refer design sheets along with the text)*

A) ENTRANCES

- **Entrances to the site:**

  1) Main entrance into the museum (entry 1)

  2) Entrance through the railway platform (entry 2)

- **Entrances to the building:**

  1) Ramps on the 1st and the last entrances (ramp 1 and 2) of the railway platform: These ramps are of slope 1: 15, hence making the span of the ramp 13.5 meters for 0.9 meter of the platform height.

  2) Ramp at the main porch (ramp 3): This is 'l' shaped ramp again with a complete length of 13.5 meters.

  3) Ramp at the side porch (ramp 4): Again a ramp of 13.5 meters length.

  4) Providing railings of height of 0.80 meters to the ramps.

- **Entrances to the halls:**

  1) Connecting halls into a large one and providing only one entry to it.

  2) Providing slope of 1:20 to the entrance.

B) STAIRS

- **Railings and handrails:**

  1) Providing hand rails on both the sides of the staircase with extra gripping devices.

  2) Providing extra handrail at a lower height for kids.

  3) Providing extra movable clutch for the elderly on the railings.

- **Lighting:**

  Provide cove lighting on the bottom side of the handrails to lighten up the staircase. LEDs will be used inside the coves of stainless steel railing that will be encased in a wooden covering to match the environment of the heritage building. Manufactured by many companies, like micro star railings and prestige railings etc., these led lights are available in 12v. Being completely waterproof and encased in a type 316 stainless steel housing, these led lights are able to stand up to the most demanding environments. This railing light is both a functional and creative lighting alternative.

- **Flooring with Tactile mapping:**

  1) Making pathways throughout the heritage building to provide free circulation of the vision impaired.

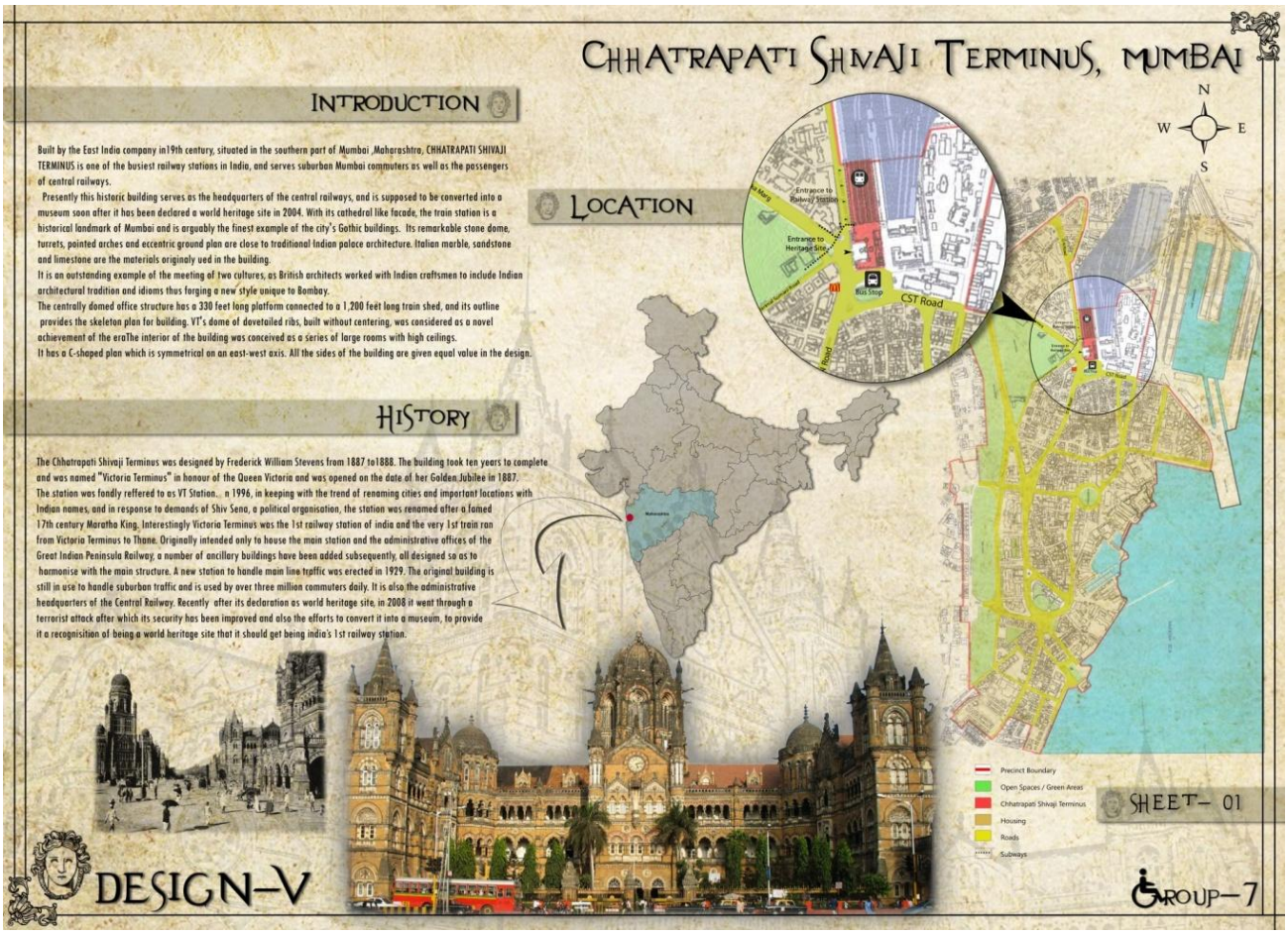
- **Installation:**

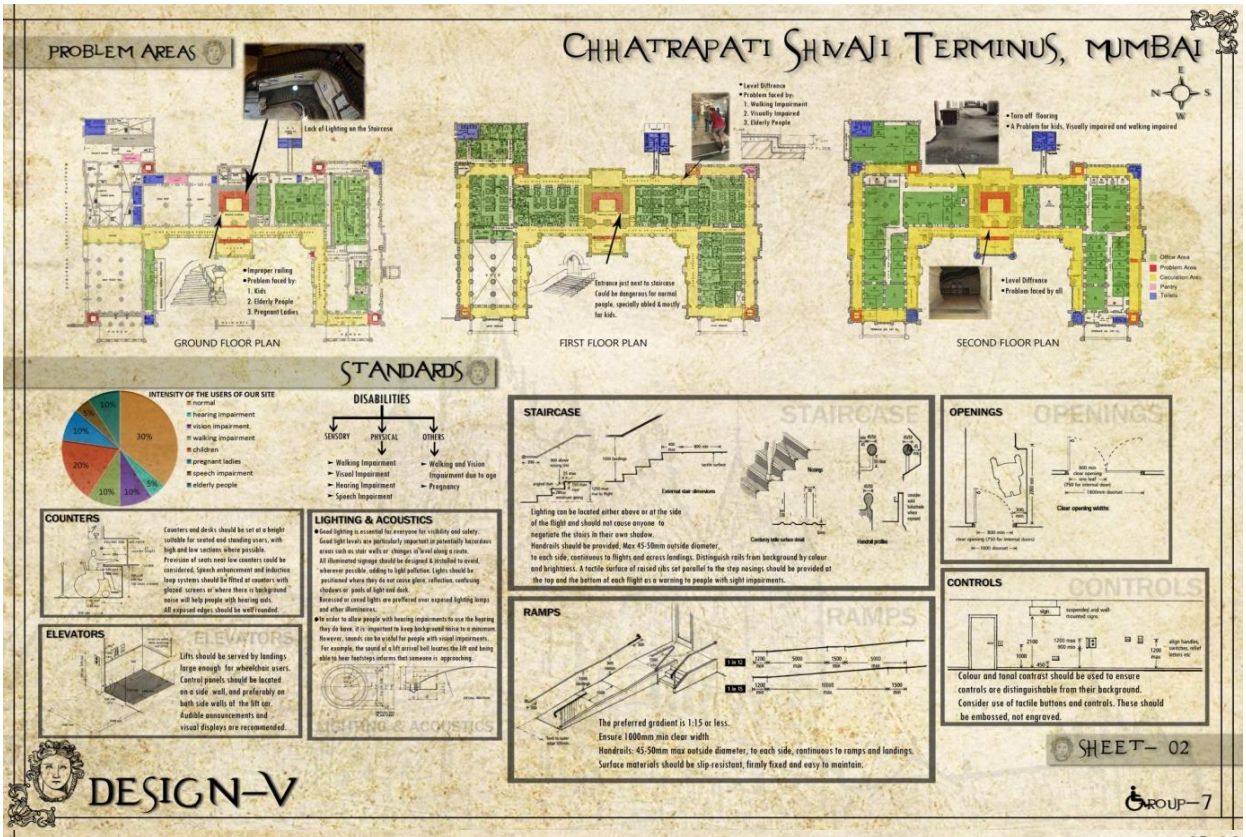
  Rubber sheet roll of 0.5 mm thickness will be used for the proposed tactile mapping throughout the building, which can be installed by two ways:

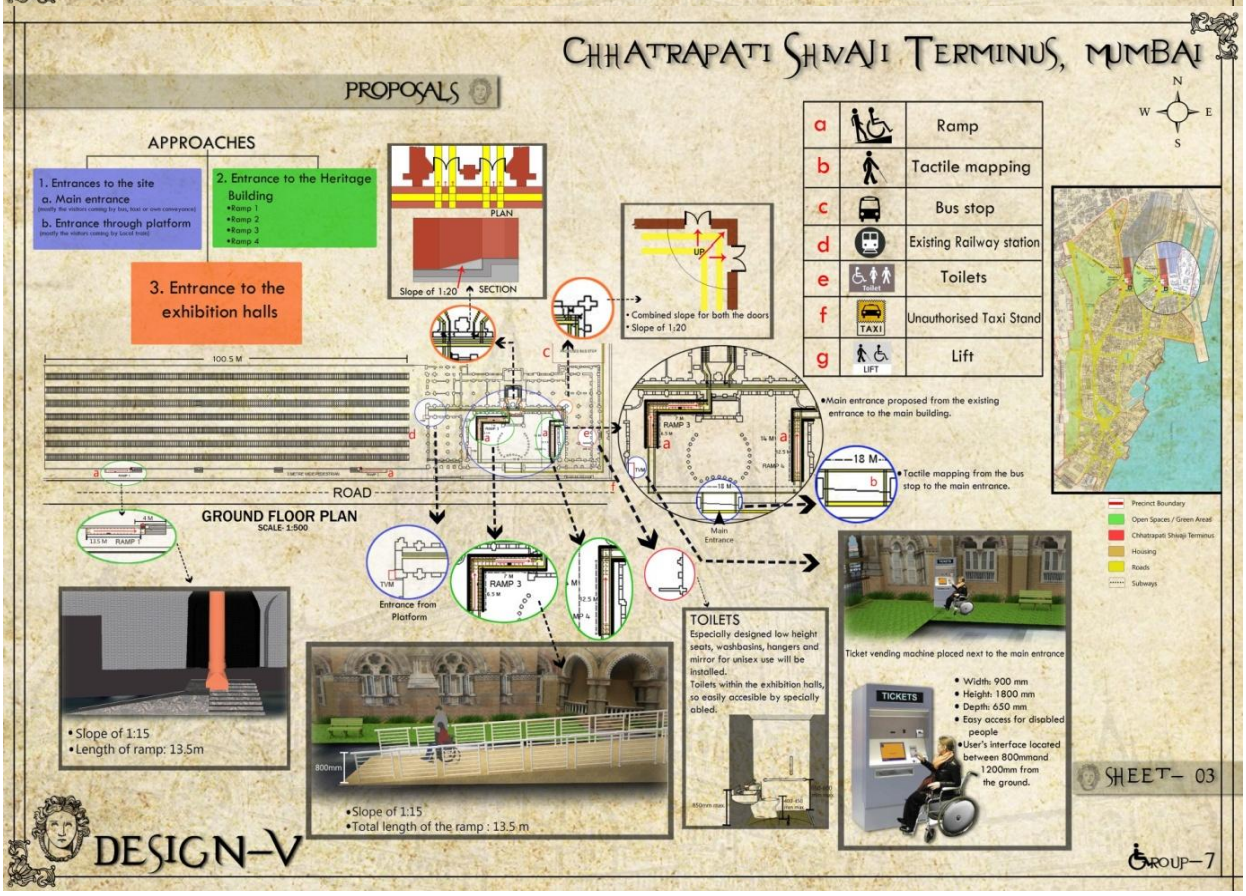
1) By using a double sided tape made especially for this purpose, with extra strong gum.

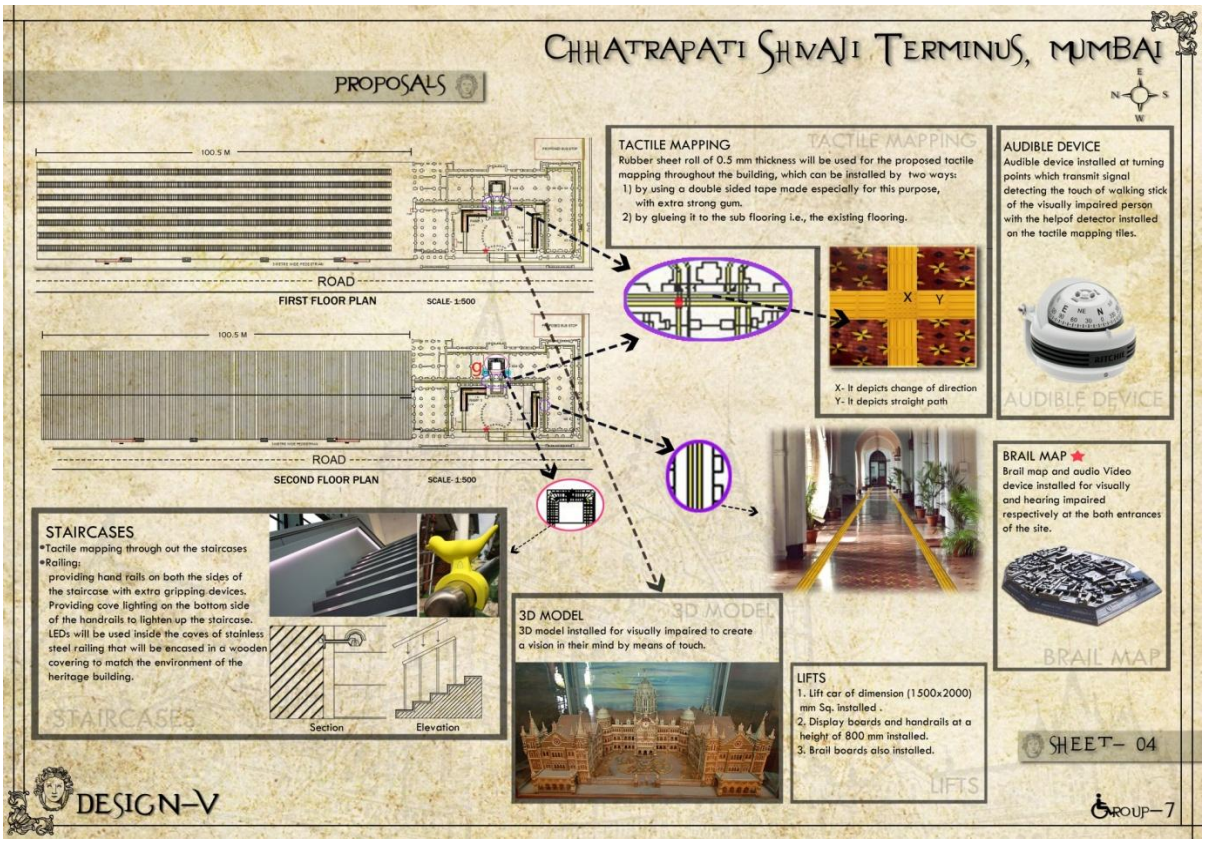
2) By gluing it to the sub flooring i.e. the existing flooring.

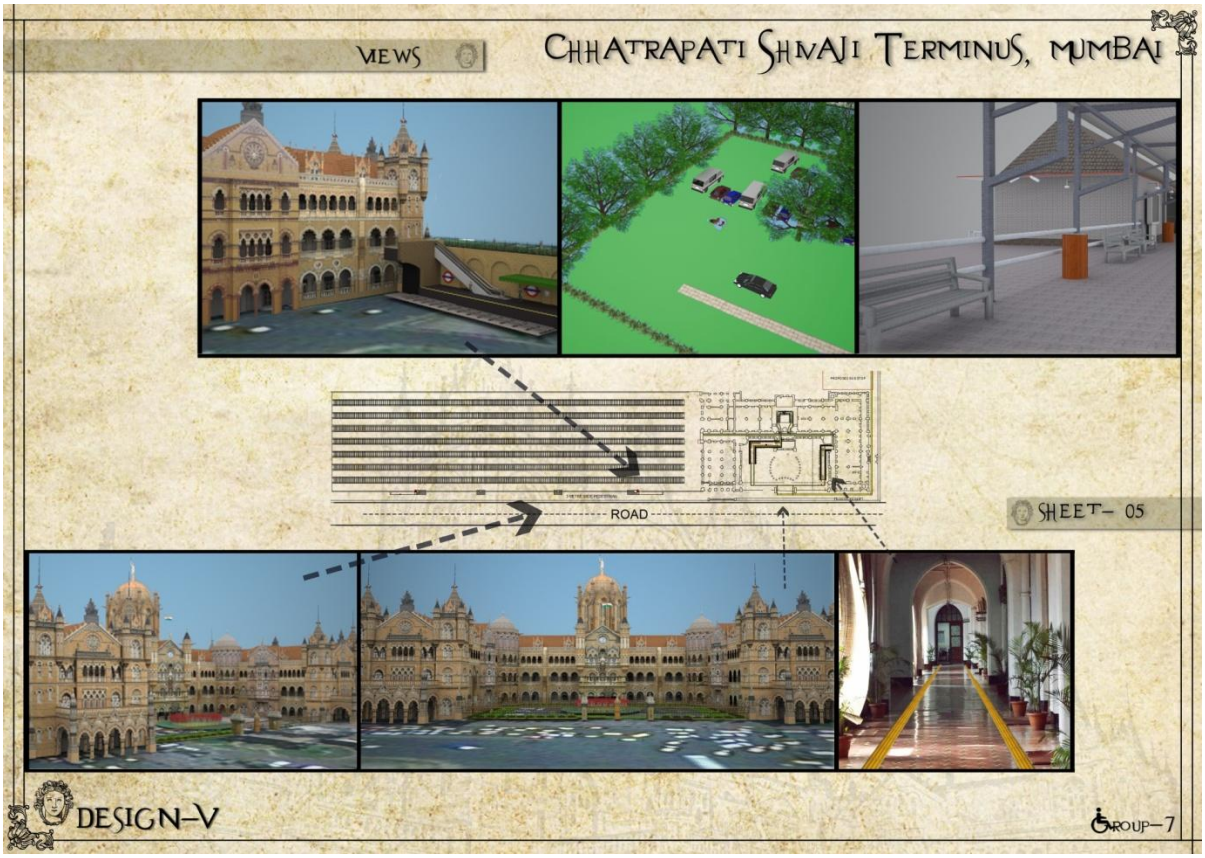
DESIGN SHEETS:




CHHATRAPATI SHIVAJI TERMINUS, MUMBAI
PROBLEM AREAS
GROUND FLOOR PLAN
FIRST FLOOR PLAN
SECOND FLOOR PLAN
STANDARDS
INTENSITY OF THE USERS OF OUR SITE
DISABILITIES
SENSORY
PHYSICAL
OTHERS
COUNTERS
ELEVATORS
LIGHTING & ACOUSTICS
STAIRCASE
OPENINGS
CONTROLS
RAMPS
The preferred gradient is 1:15 or less.
Ensure 1000mm min clear width.
Handrails: 45-50mm max outside diameter, to each side, continuous to ramps and landings.
Surface materials should be slip-resistant, firmly fixed and easy to maintain.
SHEET– 02
DESIGN–V
GROUP–7


CHHATRAPATI SHIVAJI TERMINUS, MUMBAI
PROPOSALS
APPROACHES
1. Entrances to the site
a. Main entrance
b. Entrance through platform
2. Entrance to the Heritage Building
•Ramp 1
•Ramp 2
•Ramp 3
•Ramp 4
3. Entrance to the exhibition halls
Slope of 1:20
SECTION
PLAN
• Combined slope for both the doors
• Slope of 1:20
a Ramp
b Tactile mapping
c Bus stop
d Existing Railway station
e Toilets
f Unauthorised Taxi Stand
g Lift
•Main entrance proposed from the existing entrance to the main building.
•Tactile mapping from the bus stop to the main entrance.
ROAD
GROUND FLOOR PLAN
SCALE 1:500
Entrance from Platform
•Slope of 1:15
•Length of ramp: 13.5m
•Slope of 1:15
•Total length of the ramp : 13.5 m
TOILETS
Especially designed low height seats, washbasins, hangers and mirror for unisex use will be installed.
Toilets within the exhibition halls, so easily accesible by specially abled.
Ticket vending machine placed next to the main entrance
• Width: 900 mm
• Height: 1800 mm
• Depth: 650 mm
• Easy access for disabled people
•User's interface located between 800mmand 1200mm from the ground.
TICKETS
Precinct Boundary
Open Spaces / Green Aread
Chhatrapati Shivaji Terminus
Housing
Roads
Subways
SHEET– 03
DESIGN–V
GROUP–7


CHHATRAPATI SHIVAJI TERMINUS, MUMBAI
PROPOSALS
100.5 M
ROAD
FIRST FLOOR PLAN
SCALE- 1:500
100.5 M
ROAD
SECOND FLOOR PLAN
SCALE- 1:500
TACTILE MAPPING
Rubber sheet roll of 0.5 mm thickness will be used for the proposed tactile mapping throughout the building, which can be installed by two ways:
1) by using a double sided tape made especially for this purpose, with extra strong gum.
2) by glueing it to the sub flooring i.e., the existing flooring.
X
Y
X- It depicts change of direction
Y- It depicts straight path
AUDIBLE DEVICE
Audible device installed at turning points which transmit signal detecting the touch of walking stick of the visually impaired person with the helpof detector installed on the tactile mapping tiles.
BRAIL MAP
Brail map and audio Video device installed for visually and hearing impaired respectively at the both entrances of the site.
STAIRCASES
•Tactile mapping through out the staircases
•Railing:
providing hand rails on both the sides of the staircase with extra gripping devices. Providing cove lighting on the bottom side of the handrails to lighten up the staircase. LEDs will be used inside the coves of stainless steel railing that will be encased in a wooden covering to match the environment of the heritage building.
Section
Elevation
3D MODEL
3D model installed for visually impaired to create a vision in their mind by means of touch.
LIFTS
1. Lift car of dimension (1500x2000) mm Sq. installed .
2. Display boards and handrails at a height of 800 mm installed.
3. Brail boards also installed.
SHEET– 04
DESIGN–V
GROUP–7


CHHATRAPATI SHIVAJI TERMINUS, MUMBAI
VIEWS
ROAD
SHEET– 05
DESIGN–V
GROUP–7

HUMAYUN'S TOMB

CONTEXT:

Pritam Roy, B. Arch. Student

TiyasT.M., B. Arch. Student

Abhishek Pal, B. Arch. Student

SoumitDey, B. Arch. Student

Exemplifying the formative stage of the Mughal structural style, Humayun's Tomb stands as a landmark in the development of Mughal architecture, and also represents the earliest extant specimen of the Mughal scheme of the garden tomb, with causeways and channels. It is well developed specimen of the double domed elevation with kiosks on grand scale. This building is the precursor of Taj Mahal. Humayun's tomb is the architectural achievement of the highest order.

Humayun's tomb is the tomb of the Mughal Emperor Humayun. The tomb was commissioned by Humayun's wife Hamida Banu Begum in 1562 AD, and designed by Mirak Mirza Ghiyath, a Persian architect in 1569-70 at a cost of 1.5 million rupees. It was later used for the burial of various members of the ruling family and contains some 150 graves. It has been aptly described as the necropolis of the Mughal dynasty. It was the first garden-tomb on the Indian subcontinent, and is located in Nizamuddin East, Delhi, India.

The tomb was declared a UNESCO World Heritage Site in 1993 and since then has undergone extensive restoration work, which is still underway. Besides the main tomb enclosure of Humayun, several smaller monuments dot the pathway leading up to it. The tomb complex of Isa Khan pre-dates the main tomb more than 20 years, constructed in 1547 AD. Within the enceinte to the south-east of Humayun's Tomb there is a fine square tomb of 1590-91, known as the Barber's Tomb.

OBJECTIVE:

How many disabled users and elderly are able to go where they want to go? Are their special needs met in the places they visit? Are they treated with dignity and equality like others? To answer these questions with our sensibility of design we made an attempt to make a world heritage site accessible for all; design it universally.

The objective was to attempt design intervention in one of the twenty two protected world heritage sites in India (cultural) in our respective zones. We were to develop imaginative design solutions for universal usability, retaining the original fabric of the world heritage sites. Our design intervention may range from a product to a whole site experience, with an intention to meet different levels of challenges for diverse users in the site.

DESIGN METHODOLOGY: *(Please refer design sheets along with the text)*

- **To make the entire complex universally accessible, and not only concentrating on the accessibility of certain premeditated path that the tourist is expected to take.**
- **Placing ourselves in the shoes of the disabled person to experience the surroundings and understand the problems faced by them.**
- **Examining the present amenities provided to aid a disabled person and to check if there is any scope of improvement.**

DESIGN SOLUTION: *(Please refer design sheets along with the text)*

To help the visitors visiting this monument, we did some interventions. These interventions are as follows:

- **Since this area serves as an entrance point of the Humayun's Tomb complex and is centrally located within the project area it is proposed to locate a new interpretation center in the area partially occupied by the parking lot.**
- **A counter or service center to be built near the parking area to avail the wheelchairs for the movement- impaired persons, along with which a volunteer or an attendant, if needed.**
- **We propose that the parking area ramps are such that they have enough gradient for the smooth movement of the wheelchairs.**
- **We also propose that a tactile surface is laid in the site thoroughly such that the vision impaired people do not find it difficult to move. The tactile surfaces which are readily available could be used for the path from the parking to the ticket counter.**
- **For the path up to the gate prior to the west gate of the Humayun's Tomb, we propose the tactile surface to be custom built of concrete and brick structures such that it blends with the pathway which is made of concrete. On this pathway, on the right side stands the Isa Khan's Tomb and on the left stands the Bu-Halima Garden and Tomb. For the Char Bagh the tactile surfaces would be sandstone laid to make it blend with the natural surroundings of the Humayun's Tomb. The textures should be clear enough to make it usable for the needed and to blend with the natural surroundings.**
- **After entering the west gate, one would find it difficult to climb the stairs with riser height of 300mm. This makes the**

locomotion of the movement impaired people difficult here. Thus they remain deprived of the visit to the exhibition hall. We suggest that a ramp along with a platform in the middle to be built at this place. This particular type of ramp would rise up to the platform with a gradual slope and then it would be bifurcated, with one slope entering the exhibition room. The slope again with a smooth gradient makes a person to enter directly to the Char Bagh.

- **The kind of ramp stated above would have tactile surface for the easy locomotion of the visually impaired persons.**
- **As one enters the Char Bagh, both the visually impaired person and the movement impaired person would find it difficult to reach the Humayun's Tomb. The slab which covers the drains for the easy movement of the persons, are actually small to carry out the wheel chairs. Moreover there are no tactile surfaces in the whole char bagh for the flow of the visually impaired people. We suggest that the causeway slabs should be made wider enough for the wheelchair to travel on it and an even tactile surface discussed above to be laid in the char bagh for the flow of the visually impaired people.**
- **The plinth level of the Humayun's Tomb is high enough. The movement impaired people cannot climb this up, neither can they go to the first floor height. We suggest a ramp with a rubber platting on both the sides for the grip of the wheelchair. The ramps are to be fixed in the chamfered corner of the plinth and the ramps should be made of glass so that the immediate surroundings of the tomb are intact and the original surface view is not blocked by the intervention.**

- **To make the possibility of the locomotion of the movement impaired people to the first floor, we propose a stair wall handrail lift. The wheel chair can stand on the platform of this inclined lift. The platform is foldable and thus covers a minimum area and blending with the environment.**

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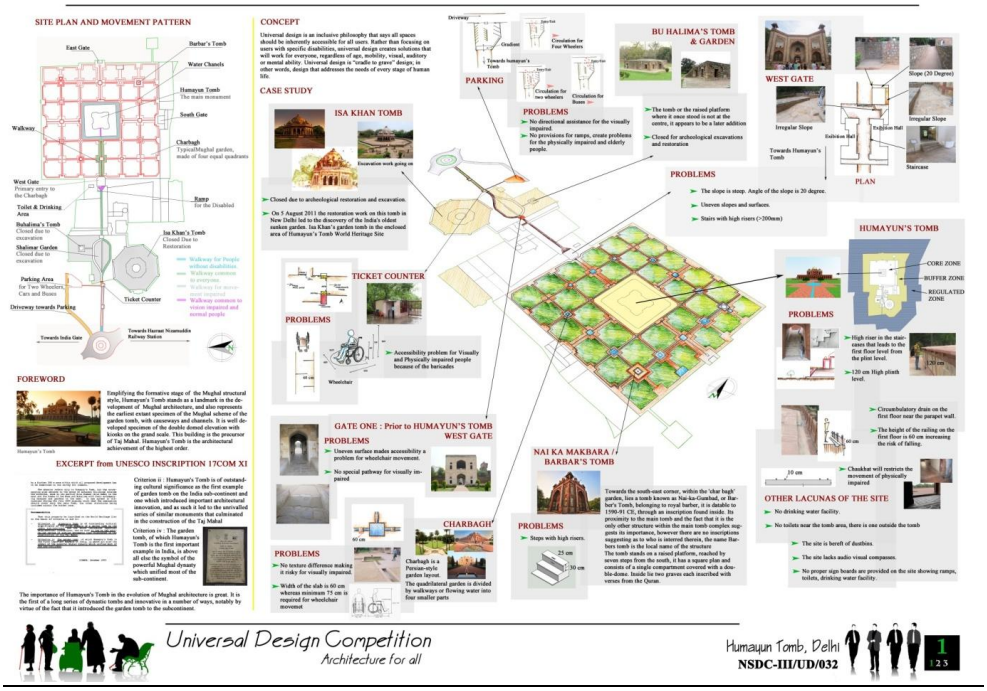
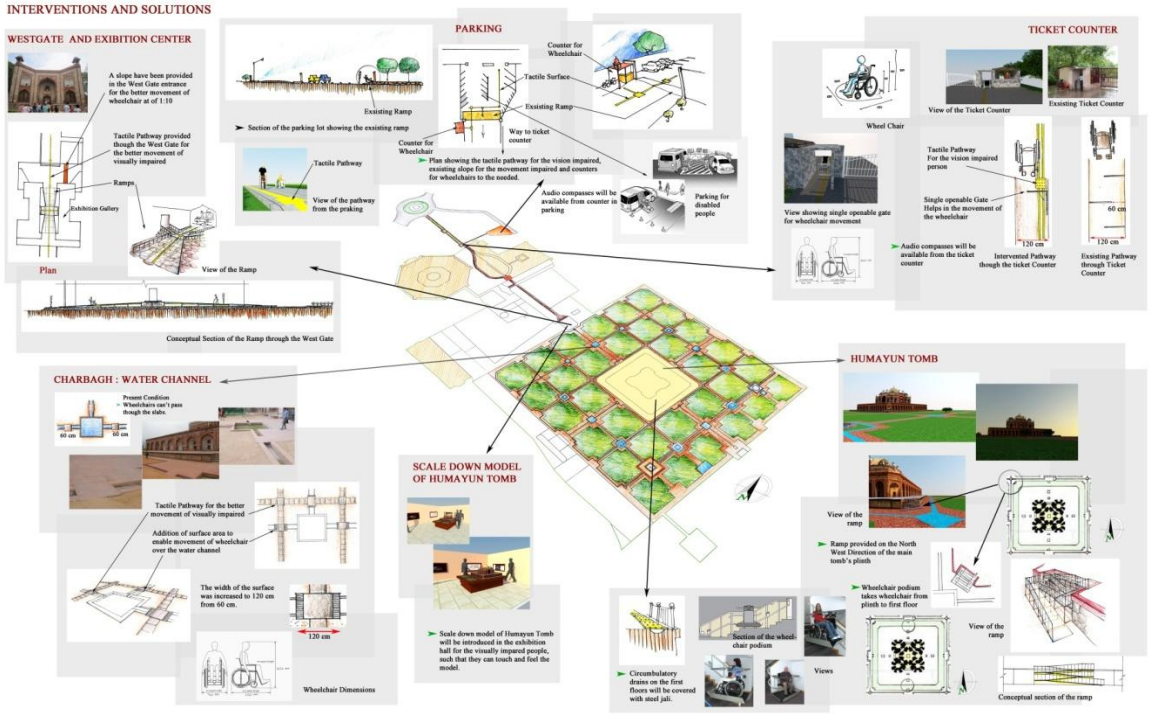
DESIGN SHEETS: *(continued in next page)*

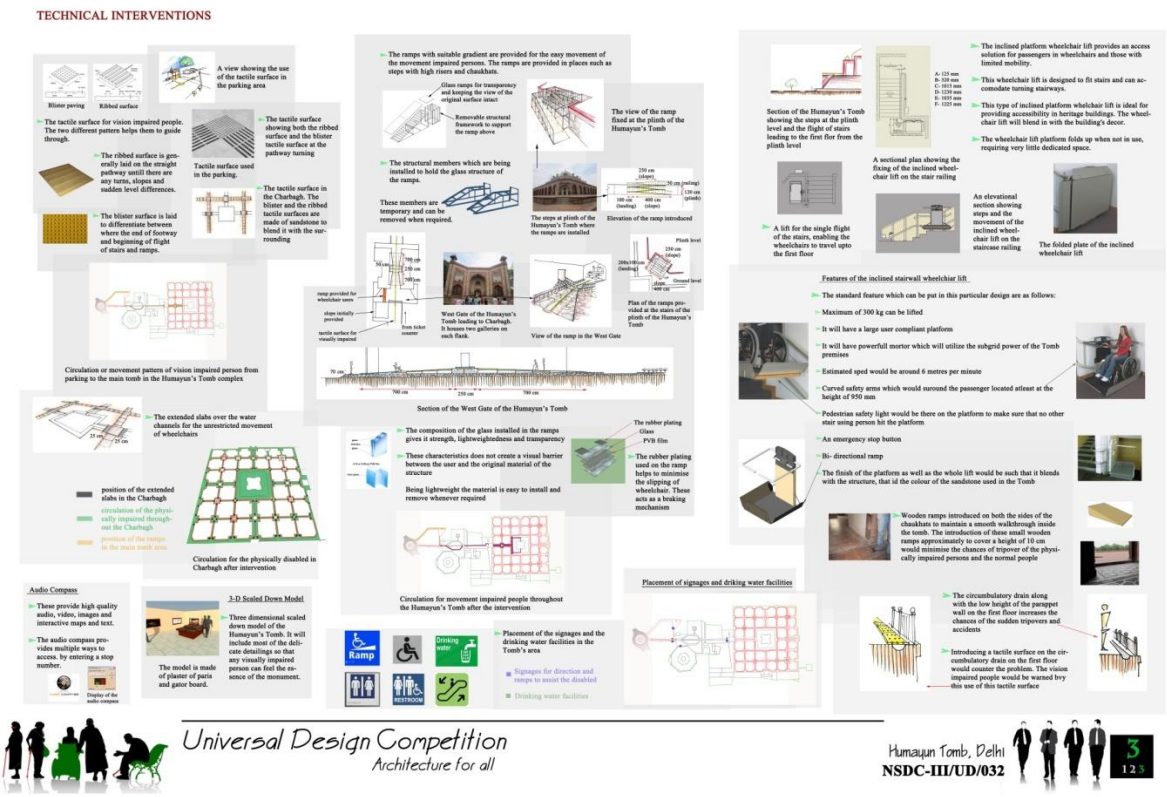




Universal Design Competition
Architecture for all

Humayun Tomb, Delhi
NSDC-III/UD/032

2



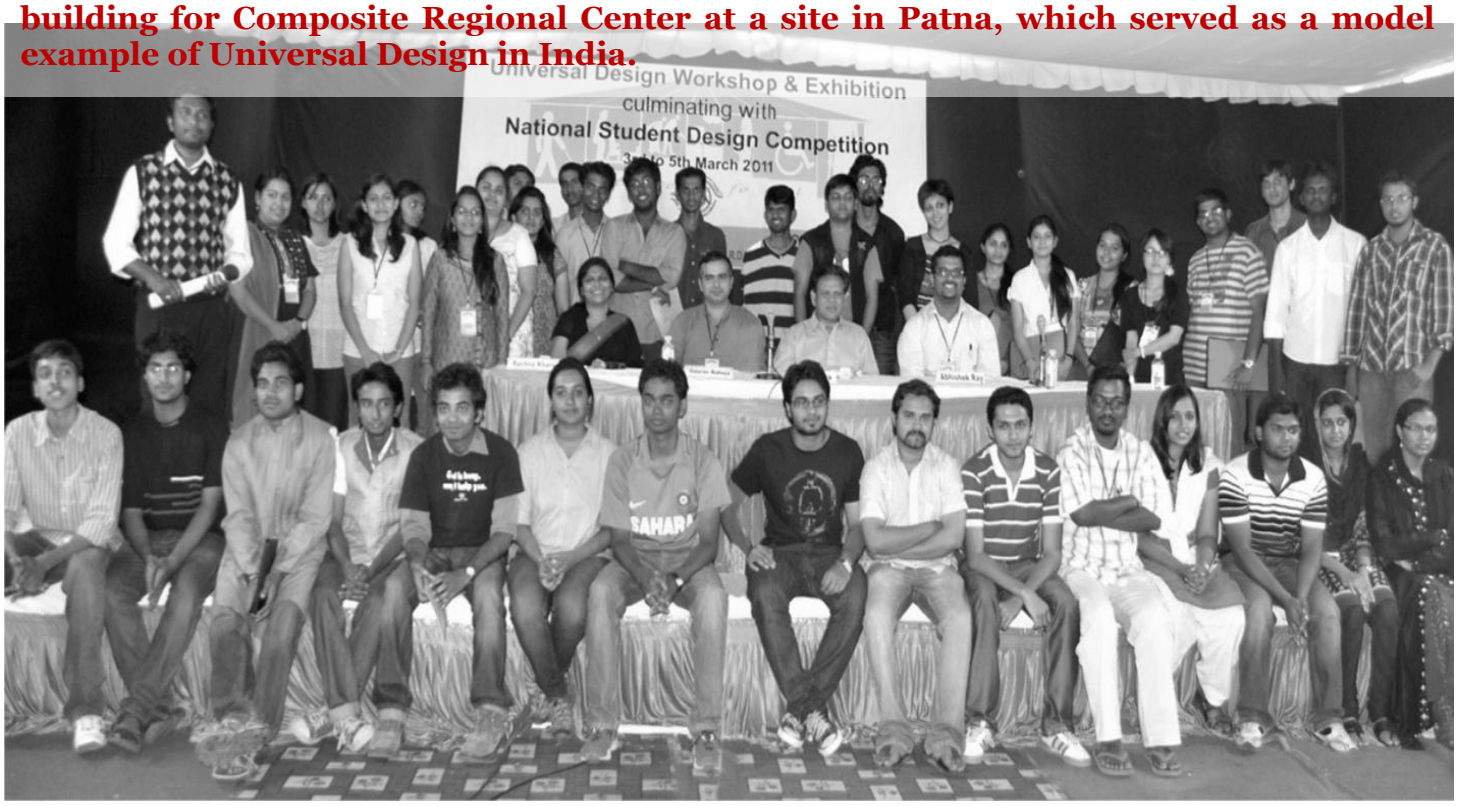
Universal Design Competition
Architecture for all

Humayun Tomb, Delhi
NSDC-III/UD/032

3

4. UNIVERSAL DESIGN FOR COMPOSITE REGIONAL CENTER FOR PERSONS WITH DISABILITIES, INDIA- NSDC-2011

The National Student Design Competition for Universal Design was floated in October 2010 and culminated in a workshop in March 2011. The institute received tremendous response for this competition from architecture and design schools with about eighty registrations and thirty design entries. The registered student teams prepared their designs based on the design brief and in consultation with their faculty advisors. The teams were also provided with a list of books, websites and other online resources on universal design to make their challenge an informed attempt. The two best competition entries were awarded and all shortlisted entries were displayed as an exhibition for the professionals for wider dissemination. The event was organized in collaboration with National Institute of Orthopedically Handicapped, Kolkata, which is an apex organization in the area of locomotor disability, under Ministry of Social Justice and Empowerment, Government of India. The upcoming section has included a few competition entries for NSDC 2011, for which SPAB students designed a building for Composite Regional Center at a site in Patna, which served as a model example of Universal Design in India.

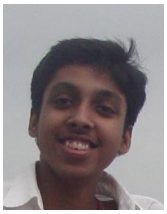


CRC- I: DHRAMA-KARMA-ARTHA-MOKSHA

CONTEXT:

Nayan S., B. Arch. student

Nandini B., B. Arch. student



Manas Ranjan, B. Arch. student

Sourav Das, B. Arch. student

The purpose of our design is to create a built environment which is friendly to all users, with or without functional disabilities. Our priority was to initiate equality in our design process. A very prolonged approach has been made to design a model example of universal design in which, with the aid of technology, we have tried to create a balance between the natural and modern built environment. The major challenge was to uproot the wrong notions about universal design which is generally observed in people and to create awareness amongst them.

DESIGN METHODOLOGY:

The entire design process was carried out through a series of objectives; a case study of CRC Bhopal was done. Drawing inferences from the case study, the study of the prevailing climatic conditions of the provided site, becoming familiar with the different types of disabilities, designing aids to counter them, and finally designing a building which is universally accessible were major steps in the design methodology.

Fig 1.1: case study Composite Regional Centre Bhopal

Fig 1.2: case study Composite Regional Centre Bhopal

DESIGN SOLUTION:

Every individual experiences a fair life span irrespective of his disability. According to the Gita, the life of any human being is divided into four parts: Dharma (acceptance of religion), Artha (preservation of possessions, Karma (duty towards the world) and Moksha (salvation). Our design very well reflects the journey of a man from his formation to his salvation and captures the four stages in any human's life. It is as much philosophical as it is technical. The very deep philosophy of human life thus suggests that we shift our perspective to one which is equal to all.

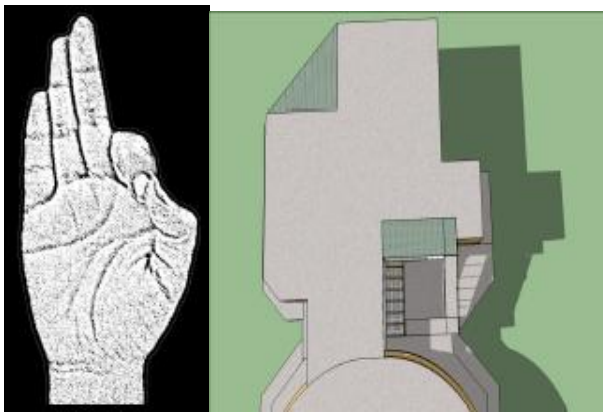


Fig 2.1 Dharma

Fig 2.2 Karma

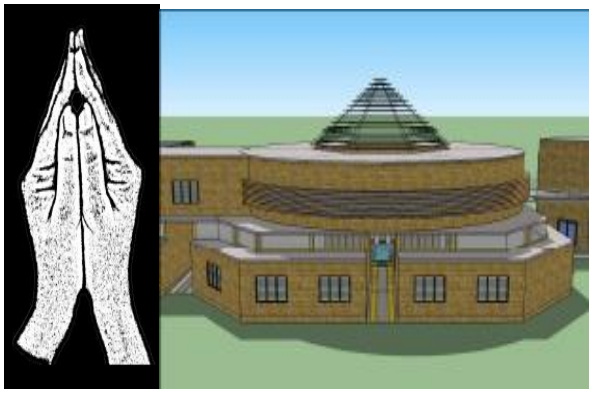


Fig 2.3 Artha

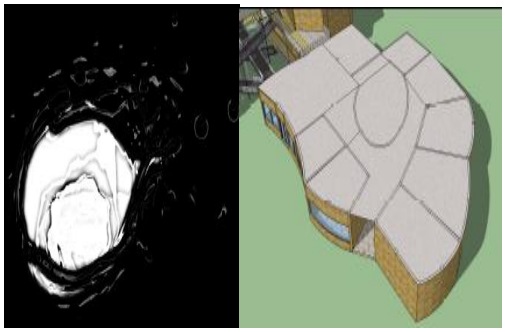


Fig 2.4 Moksha

The building is a composition of four blocks – the service, the academic, the ramp & multipurpose hall, and the administrative.

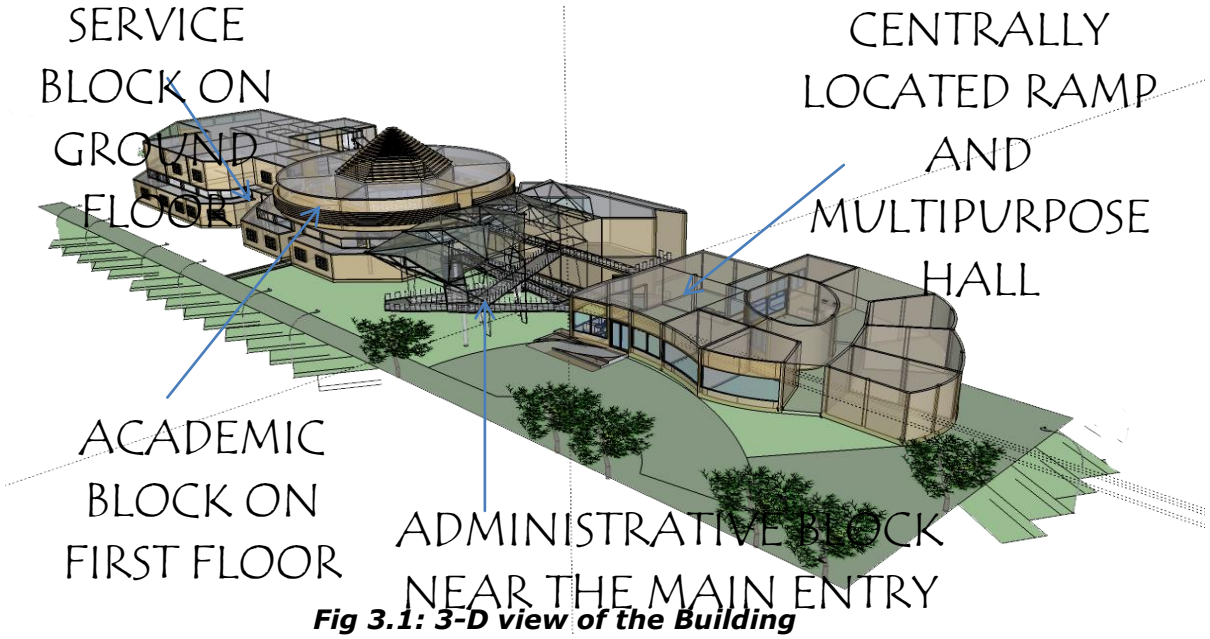


Fig 3.1: 3-D view of the Building

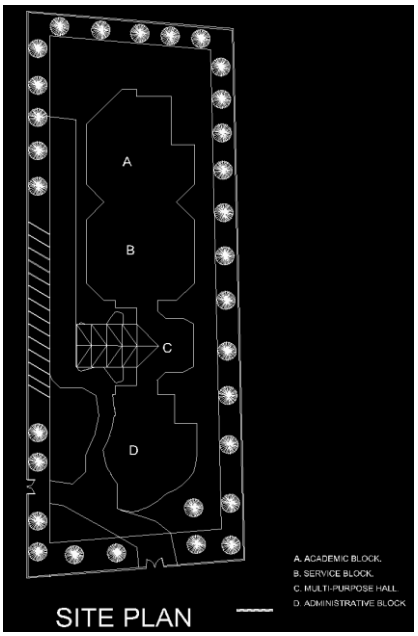


Fig 3.2: the site plan

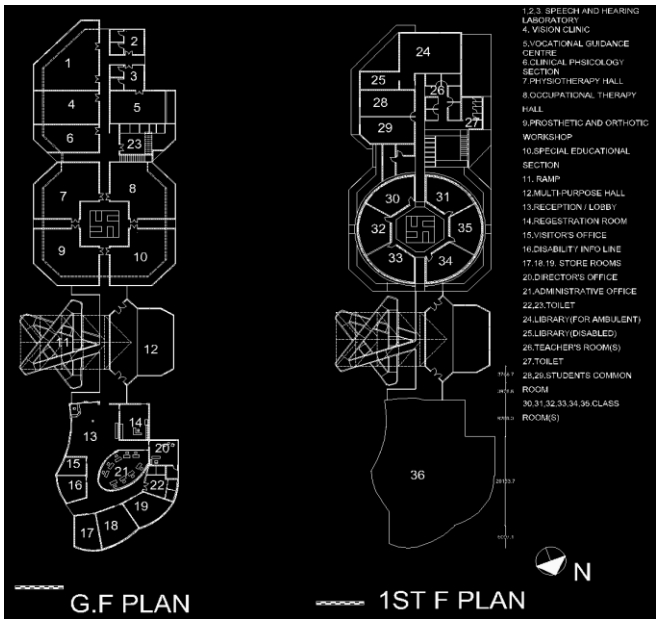


Fig 3.3: floor plans

Fig 4.1: south east elevation

The elevations of the building are seen in figures 4.1, 4.2 and 4.3. A section is shown in fig4.4.

Fig 4.2: North West elevation

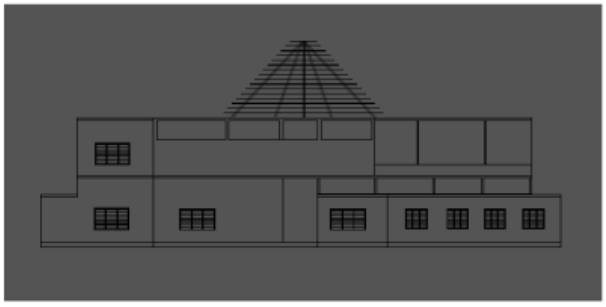


Fig 4.3: south west elevation

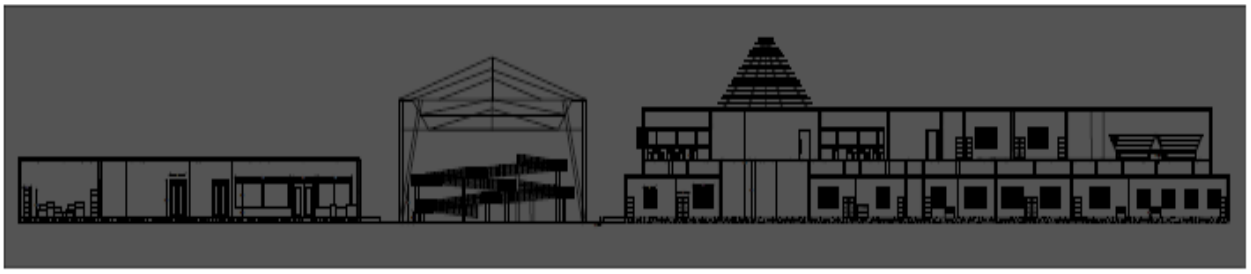


Fig 4.4: a section through the building

In the process, a lot of innovations in terms of aesthetics and technicalities have been included for the differently abled people. A straight pathway has been provided through the entire building as seen in the plans (fig 3.3). A ramp of slope 1:12 with a landing after every 6000 mm and a stair lift are the means of vertical circulation (fig 5.1).

Fig 5.1 the pentagram shaped

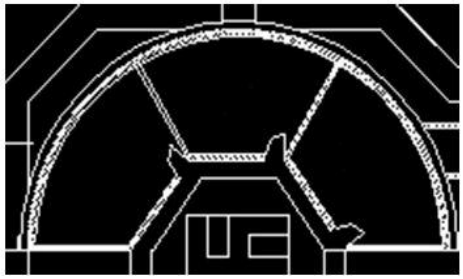


Fig 5.2: fan shaped classroom

Window sill level, height of handrails and the width of doors have been decided as an average for a person sitting on a wheelchair and an ambulant person. Fan shaped classrooms have been provided (fig 5.2). The provision of a separate section for the blind has been made. The reception desk in the administrative block has been designed in two levels for the ease of people (fig 5.3).

Fig 5.3: reception desk

Fig 5.4: universally designed toilet

With the help of technology, we have come up with a toilet which is universally accessible, with special equipment like a rotating lever arm and an adjustable mirror (fig 5.4).

The height of the bulletin boards (fig 5.6) and water coolers have been decided keeping in mind the comfort of the users. The water coolers have colored buttons with Braille pads on them (fig5.5). Almirahs with circular sliding doors have been installed, where doors slide inside the almirah to minimise the movement while opening it (fig5.7). Windows having tables in front of them have been provided with levers which project outwards for opening the louvers.

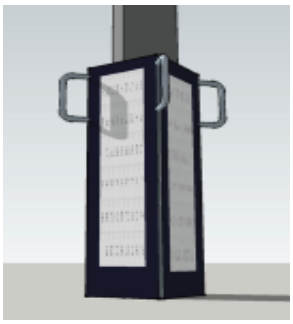


Fig 5.5: water cooler

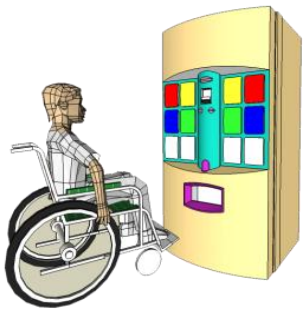


Fig 5.6: bulletin

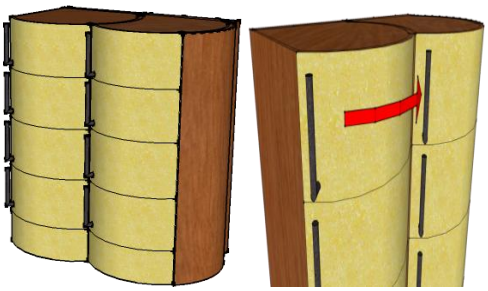


Fig 5.7: almirahs with circular shaped doors

The pathfinder which is an easy- to-operate locating system has been provided at several nodes to serve as an auditory and visual aid for people (fig 5.8). The machine has a display unit and works with a tape recorder, has keys with Braille pads and is coded with complimentary colours. The relative distances of one place to another are stored in the machine and the keys contain the names of the places.

Fig 5.8: the pathfinder

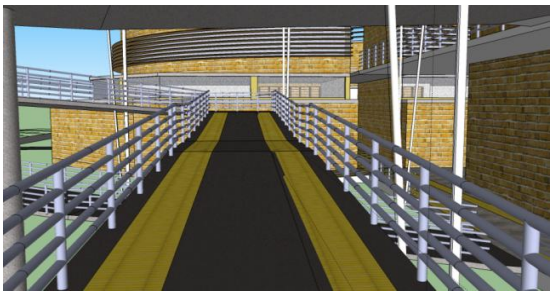


Fig 6.1: use of recycled rubber on the ramp

Innovation in terms of material applicability lies in the use of recycled rubber on the ramp to increase the rolling friction between the tracks of the ramp and the tyres of a wheelchair, providing traction while turning it (fig 6.1).

Also tactile tiles laid along the pathway change their orientation after every 1000 mm distance for helping a visually impaired person

to calculate the distance he has covered (fig 6.2). The tiles have a different color and surface texture at the junctions (fig 6.3).

Fig 6.2: tactile tiles as the flooring material

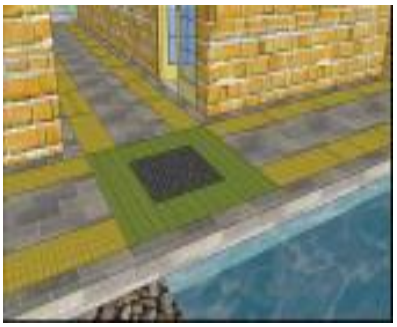


Fig 6.3: tiles at junctions

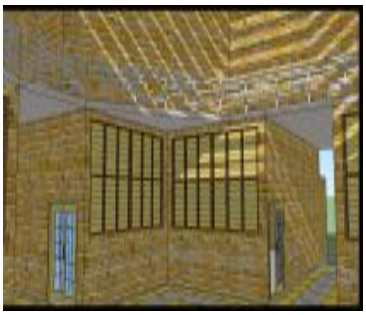
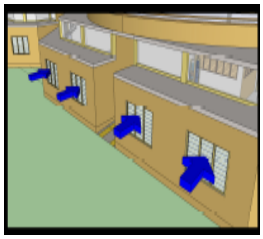


Fig 7.1: diffused light in the central courtyard through the louvered roof

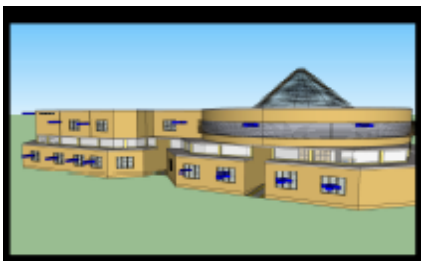
For ventilation and natural lighting, wooden as well as synthetic louvers have been used. Glass has been used in slant angles to radiate heat for controlling the indoor temperature. A tetrahedron-shaped roof over the central courtyard with louvered openings provides a central courtyard style of air circulation (fig7.1).

A total schematic diagram of the entry and escape of air is shown in fig 7.2.

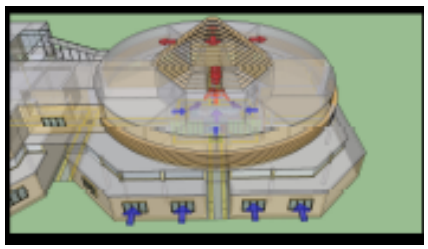


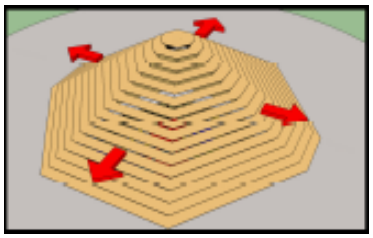
Entry of cool air

Transition of hot to cool air



Inlet of air in the building





Escape of hot air through louvered roof

fig 7.2: total schematic diagram of the inlet and outlet of air

The transition in the building from the geometrical forms to the organic style in the administrative block represents the transition of one's restrained life to salvation.

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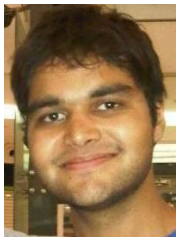
CRC II: ACHIEVING 'UNIVERSALITY' IN DESIGN

CONTEXT:

Gaurav Sinha, B. Arch. student



Govinda A., B. Arch

Soham Sinha, B. Arch. student

Universal design means that the products which are universally accommodating; they conveniently cater requirements of all their users. On the route towards this goal, the product that are designed primarily for the mass market of able-bodied people, could be refined and modified, so that it would suit all its other potential users including people with disabilities. Good design is for everyone, it is good for especially/differently abled people too.

Universal Design in Architecture serves all levels of the eight-level pyramid (Goldmith, 2000). With regards to public buildings, if usable by all kinds of people, it is the route to universal design.

- **In row 1 at the foot of the eight-level pyramid are fit and agile people, those who can run and jump, leap up stairs, climb perpendicular ladders, dance exuberantly and carry loads of heavy baggage.**
- **In row 2 are the generality of normal adult able-bodied people, those who, while not being athletic, can walk wherever needs or wishes may take them, with flights of stairs not troubling them.**
- **In row 3 are the main, also, normal able-bodied people, and in the public realm the architect frequently fails them.**
- **In row 4 are elderly people who, although perhaps going around with a walking stick, do not regard themselves as being 'disabled'.**
- **In row 5 are ambulant people who have disabilities**

- **The people in row 6 are independent wheelchair users.**

CASE STUDIES:

Case study in SOS village at Bhopal and in CRC Bhopal was done. This gave an overall idea about universal design. Following is an account of the special features in the case-studies:

Parking & Walk-Way:

- **Parking for general public was as per basic standards.**
- **Parking for the disabled was very close to the entrance of the building.**
- **Dedicated spaces were allotted for the disabled and they were inviting for them.**
- **The access for visually impaired people was not up to the standards.**
- **The access path had lots of hindrances.**
- **There was one way entrance and the parking was on both the sides of the road.**
- **The footpath dedicated to the visually impaired people had markers on only one side.**
- **Good thing was that topographic map was available with Braille patterns for persons with visual disability.**

Entry:

- **The entrance was a metal gate with a guard room towards the right.**
- **The parking shed was visible.**
- **The entrance path was demarcated with green surroundings so it was inviting.**
- **There was only one way entrance.**
- **Accessibility aspects were not effectively considered.**

- **Especially visually impaired persons cannot access the building without assistance.**

The administrative wing:

- **There was a registration office for the new recruits, trainers and the patients.**
- **Disability Information Line was available, which contained the database of:**
    - **Available facilities to the disabled people.**
    - **All the registered patients and their profile updates.**
    - **It was mainly providing awareness to the new patients who were ignorant about the available facilities that they can avail provided by the Government of India.**

The office had the managers, accountants and multi skill experts. It also had Lecture halls, Library and Common training hall for the recruits and the trainers.

Waiting and Reception:

- **There was one main reception cum waiting area just after the porch entrance.**
- **There was a dedicated administrative block with a conference hall and a room dedicated for disability information line which was their database management system**
- **All the different wings dedicated to different activities had their own dedicated offices.**
- **The interrelationship and circulation outside and inside was very effective.**
- **Use of contrasting colours was done to highlight the paths for the visually challenged people.**
- **Before every entrance there was a Braille imprint.**

- **Guide rails were installed in to the walls all around the building.**
- **There was a difference in the texture of material at all junctions and turnings to let the visually impaired people know that they have to turn in some direction.**

CRC-PATNA:

Patna is the capital of the state of Bihar, and the second largest city of Eastern India just after Kolkata. Patna is also one of the oldest inhabited places of the world. Ancient Patliputra was the capital of the Magadha Empire. The city blessed by rivers Ganga, Son, and Gandak is approximately 25 km long and 9 to 10 km wide. Buddhist, Sikhs, Hindu and Jain pilgrim centre of Bodhgaya, Nalanda, Rajgir and Vaishali are situated in Patna.

The Composite Regional Centre would be an all in one Centre for specially-abled people; the given site is situated near the Indira Gandhi Institute of Medical Science, Patna. The plot is divided into two parts by link road. The challenge was to create a building, specially made for differently-abled people with an education centre, hospital and multipurpose auditorium. To make such a multipurpose building according to universal design theory, we have to get a look on the concept of universal design.

The universal design precept is that the accommodation parameters of normal provision should be extended as far as possible, thereby minimizing the need for special provision for people with disabilities. The query here is what is meant by 'normal' and what by 'special'. Three tests may be applied to assess the reasonableness of such special provision as is proposed in the course of designing of a building. The first is that it will be of *genuine value* to the disabled

people it is intended to benefit. The second is that it *is not inconvenient to other users* of the building; this applies other than where the advantages for its intended beneficiaries outweigh the disadvantages caused to others.

DESIGN SOLUTION: *(Please refer design sheets along with the text)*

Proposed design focuses on many aspects related to the universal design theory.

- **The planning of the building has been given utmost importance. Different areas have been demarcated and all related things kept together to ease the users.**
- **Several access points have been given in the building to minimize the travelling distances for the persons with disabilities and provide them with extra comfort of travelling less in the premises.**
- **A long continuous corridor has been provided for easy horizontal motion, which is acting like a central spine.**
- **The multipurpose hall is evolved from a fruit basket which has number of vertical and horizontal sticks making it a nest kind of a structure.**
- **Bay windows have been provided which give access to north and glazing light, thus providing a cooler sun in the hot and temperate zone of Patna.**
- **Different materials are used in different sections of the building-Academic, Administrative, Hospital, to help the user identify each block distinctively.**
- **An open library is provided on first floor. The main concept of 'open library' is based on its functionality that the themes**

written on the books are clearly visible, which helps to attract people towards them.

- The concept behind the design is based on spirituality and hope. A 'TREE OF HOPE' has been placed inside the building to make people believe that they are no less important and that there is always a better world for them.

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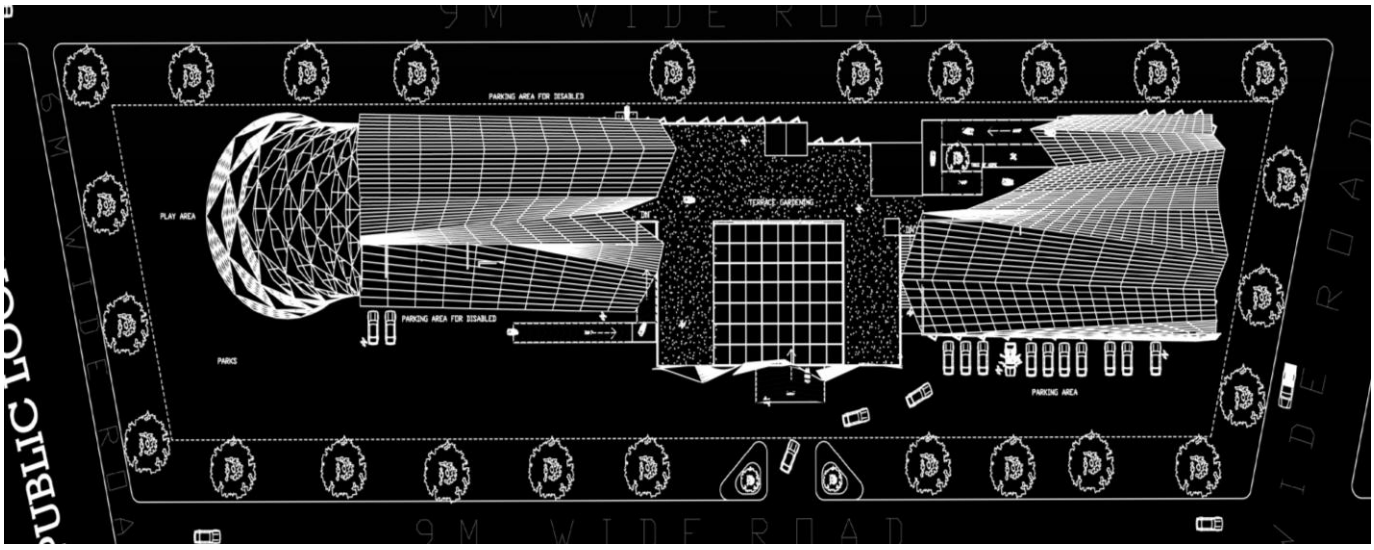
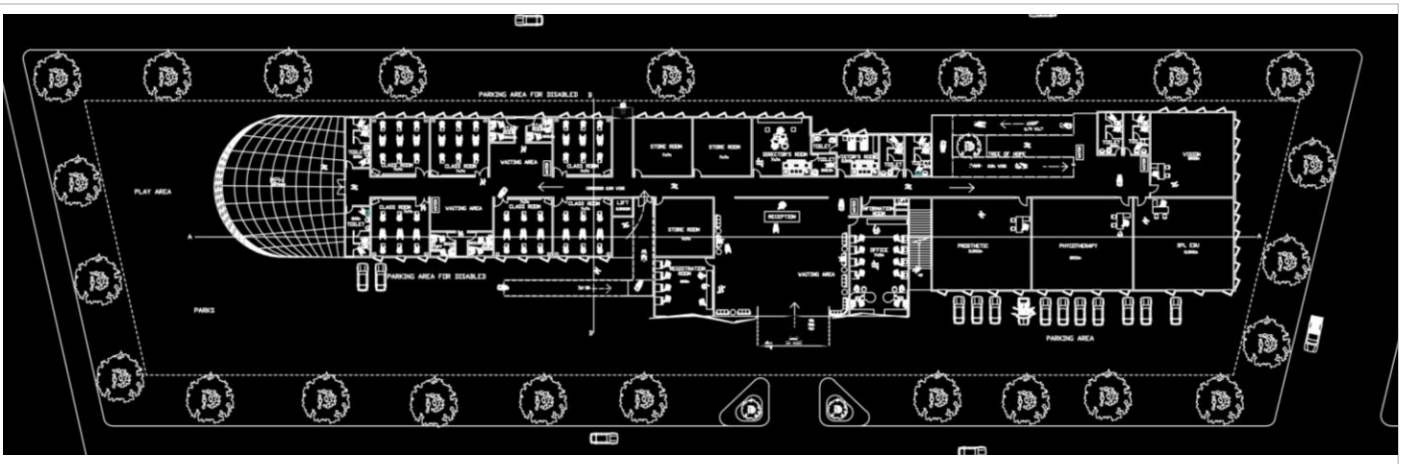
- Templar, John (1992). *The Staircase: Studies of hazards, falls and safer design,* Massachusetts Institute of Technology, Cambridge, USA, p 26, Department of the Environment (1992)
- *Sanitary provision for people with special needs,* Volume 2(1), p 174, Department of the Environment, London.
- *Sanitary provision for people with special needs,* Volume 2(1), p178, Department of the Environment, London.

DESIGN SHEETS:

ELEVATIONS, SECTIONS AND VIEWS:

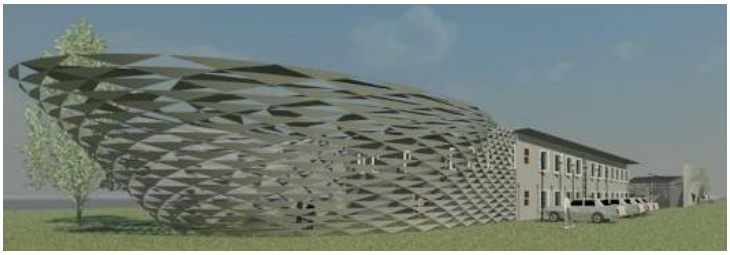


Site Plan

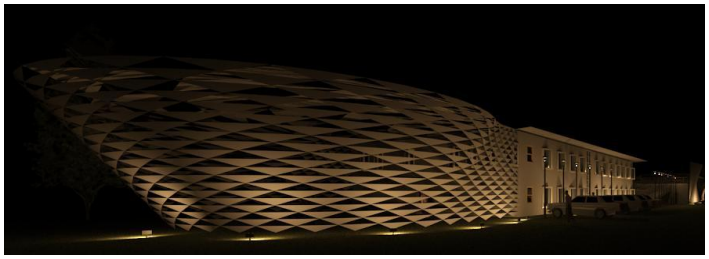


First Floor Plan

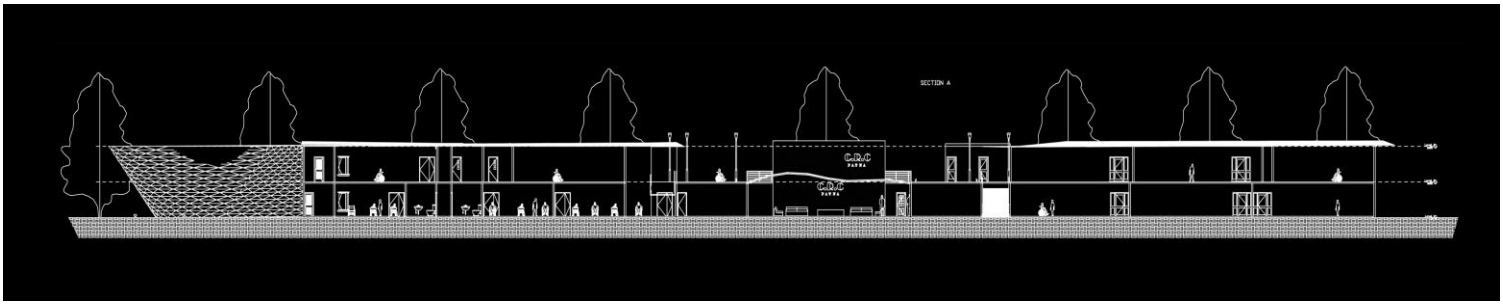
View 1



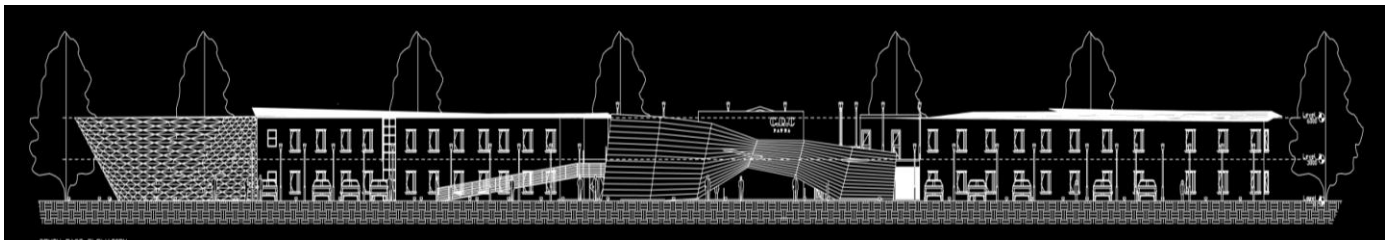
View 2



View 3



Section

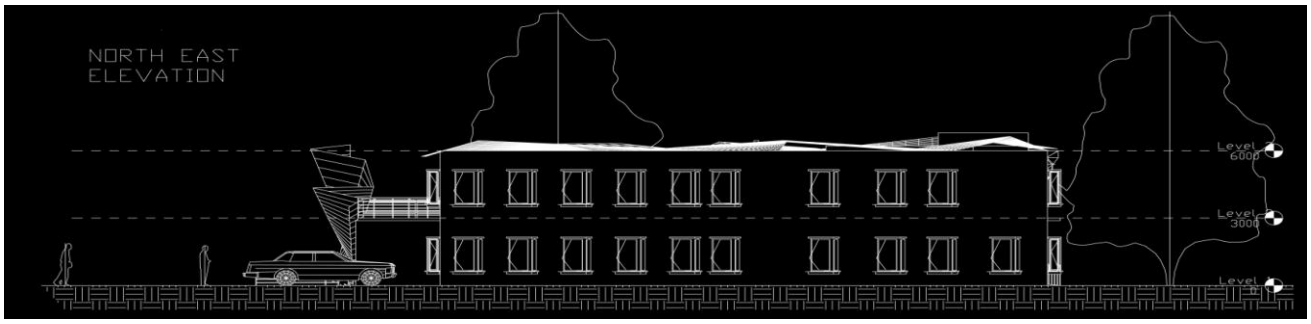


South-East Elevation

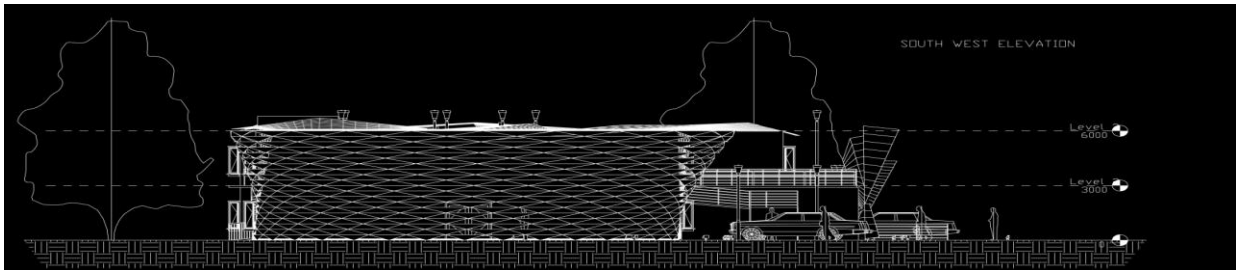
View 4

View 5

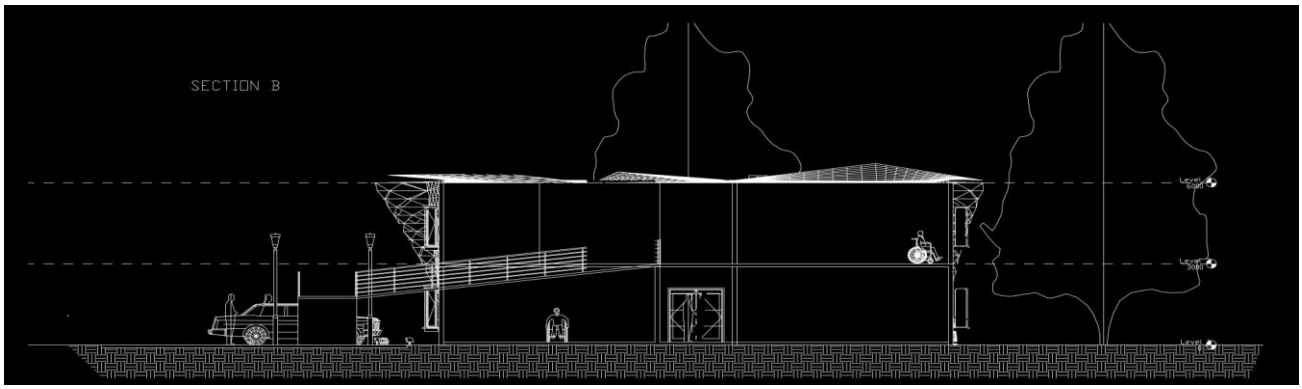
View 6



North-East Elevation



South-West Elevation



Section

View 7

CRC III: HUMANOLIC

CONTEXT:

Rushank V. M., B. Arch. Student

Akshay Gupta, B. Arch. Student

Prateek Singh, B. Arch. Student

The concept of the building is "HUMANOLIC" which has been inculcated in design through the theme of "FORM FOLLOWS FEELING".

Humanolic:

This term represents the state of human being when one starts feeling human. If we are designing a 'building for all' that simply mean that the building belongs to all. There is a human sense, which is with everyone in this universe, if he is alive, and that is "Feeling". The design that makes everyone feel that the building is not for a special group of people but for all. A building that fulfills the "needs of all" physically and aesthetically, and create an environment which is live and energetic. For example, entering in the lobby, when we look on the sculpture and the strings/cables holding ramp, it unknowingly develop a feeling of support for life and the power of life. The main principle of concept is "to serve the users in the best possible way" because building is not only the walls and the roof but the environment inside. How many times we feel patriotic in our regular life, but when we go to India Gate or Rajghat, a sense of being an Indian springs in. This is the *Humanolic* behavior of the structure which makes you to believe so.

Form follows feelings:

The design not only fulfills the functional requirements but also the feelings, and the functions which are derived from the feelings like care, strength, hard work, happiness, etc. The orientation of the

entire interior space is such that one can easily find out his/her department of interest from the entry of the lobby, at the same time he is free to move and help himself in the building. The use of design elements adds value in aesthetics, low cost and functionality.

CASE STUDIES:

Following are the important observation gathered from the case studies of CRC Bhopal and SOS Village Bhopal

Figure 1: The guide rail is provided with Braille script. This guides visually impaired to walk throughout the campus.

Figure 3: The guiding handrails are placed throughout the corridors and wall.

Figure 2: Contrasting colors are used for wall finishing, this help people with visual impairments in identification of spaces.

DESIGN SOLUTION: ***(Please refer design sheets along with the text)***

We came across to solution through the origin of a poem and seven principles of Universal Design (NCSU, 1997).

We step ahead for the future,
While we dream for the past,
For making the present mature,
We think for this, and reach
Which is so called "I am"?
To make myself capable...

For making a new generation,
We hope into the Architecture,
To make our environment all free from obstacles,
To rise in the dusk and for the new hopes,
And make them believe in themselves...

I think Architecture as a new born child,
Who can mould for you and to you,
So this age gone and a new age come,
For the environment and me,
I dream for this...

A human inside you is a human inside me,
As you think for life I do,
So once again be human and think for it,
The ultimate goal of us being "humanolic".

By: - Rushank V Mishra

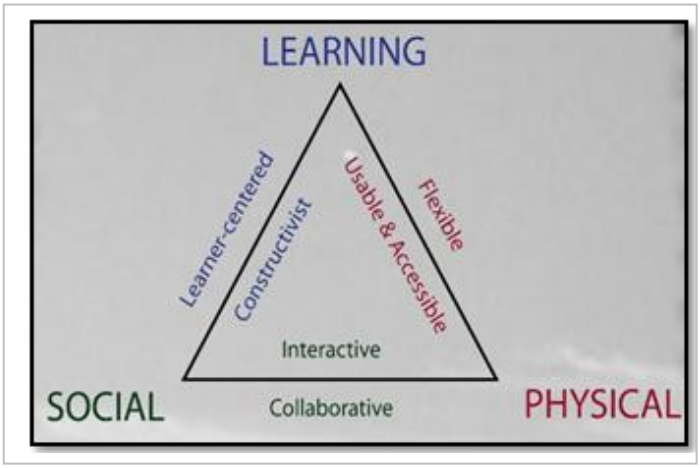


Figure 4: CONCEPT

THE PRINCIPLES OF UNIVERSAL DESIGN

EQUITABLE USE

FLEXIBILITY IN USE

SIMPLE AND INTUITIVE

PERCEPTIBLE INFORMATION

TOLERANCE FOR ERROR

LOW PHYSICAL EFFORT

SIZE AND SPACE FOR APPROACH AND USE

We tried to make the built environment as helpful as possible, so one can easily communicate with the outer world. Flooring pattern of the plan are in different colors. Hand rails have been provided

with the walls to guide the user. The energy used in the entire building is as less as possible. Option for lift has been provided for if building is made taller in future. The lawn or the courtyard provided inside the building brings nature inside it.

The ramp is hanging on the string and wires from the roof. Fiber glass translucent dome allows daylight and ventilation in the lobby area. The courtyard in the building is to balance the internal temperature and air movement; sun breakers at tilted angle in south west are designed to break the direct noon and evening sun. The plates in the front increase the pressure of air and cool it down. The front green terrace garden increases the value in aesthetics.

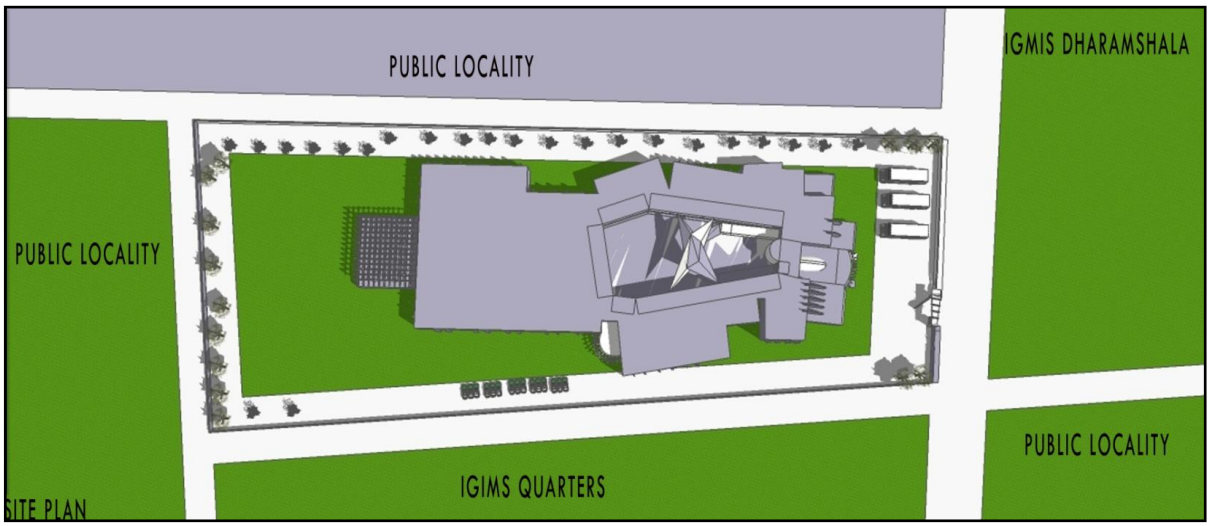


Figure 5: SITE PLAN

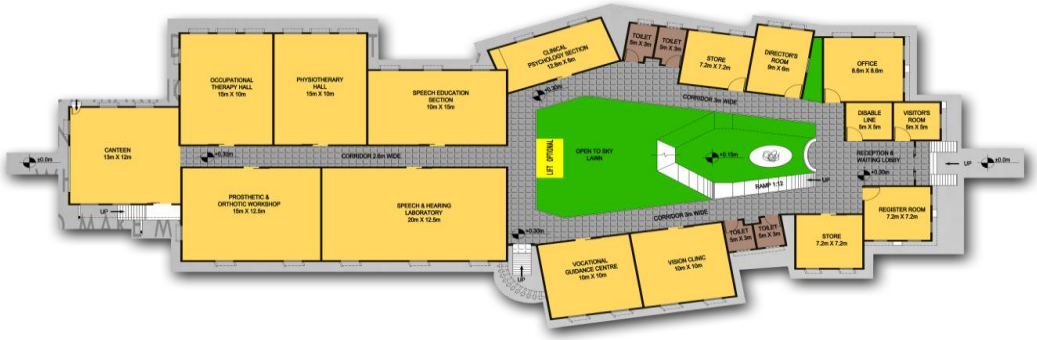


Figure 6: GROUND FLOOR PLAN

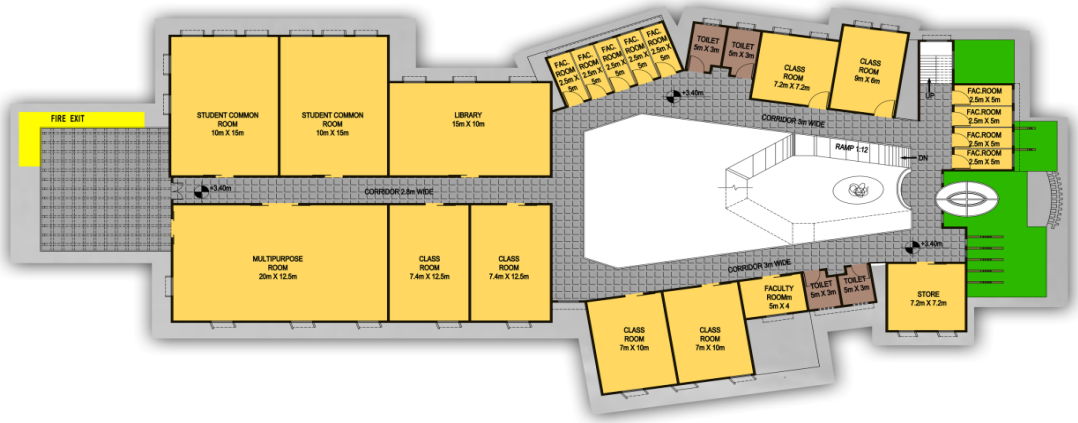


Figure 7: FIRST FLOOR PLAN

The multipurpose room is placed in the first floor adjoining to the open terrace which accommodates the open air activities too. The function performed in the multipurpose room is related to all the students and staff, so the orientation of the room is not bothering the visitors.

Figure 8: Open area or terrace adjoining to the multipurpose room

Material- Exposed brick work is used in the facade of building. Sun breakers and chajjas are provided at an angle to break the direct sun in the building. Car parking allows wheel chair user to park the car and move in the area which is totally accessible. Use of glass is limited only for visibility and light. Over exposure through glass is ignored to make spaces clearer to all.

1. DOOR

Sliding Door- The door slides and gives comfort to the user. The long handle allows holding it from different heights and the glass manages the visibility.

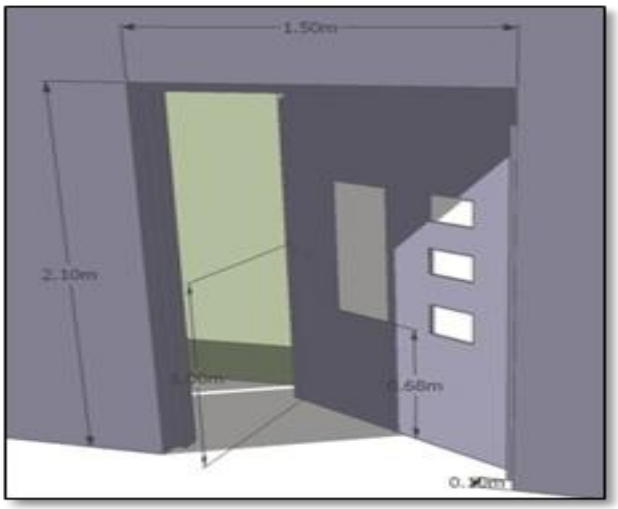


Figure 9

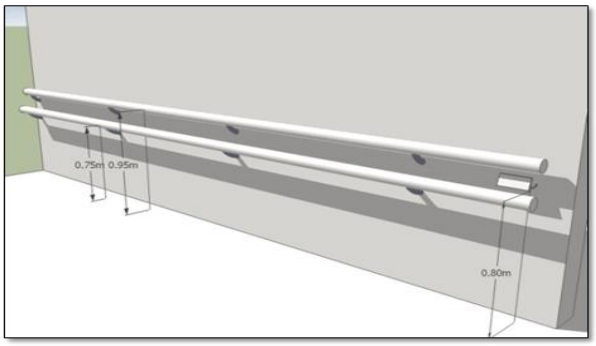


Figure 10

2. RAMP & HANDRAIL DETAILS

Handrail is provided at different heights which allows the user to use it and the direction board is attached along with it in braille script, useful for those who are visually impaired.

3. RAMP

The material used in the ramp is non-slippery and the ratio of the ramp is 1:12 which allows easy accessibility. Handrail at different heights makes it more comfortable.

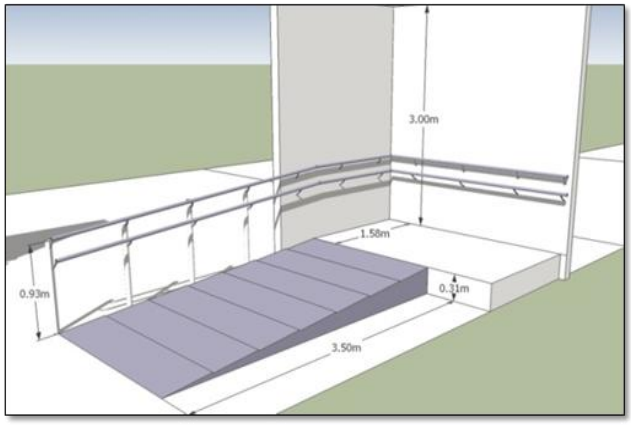


Figure 11

TOILET FIXTURES

Water Closet - The handles at different heights enhances the usability. Similarly, a long grab-bar increases the efficiency of the urinals for the people with disability.

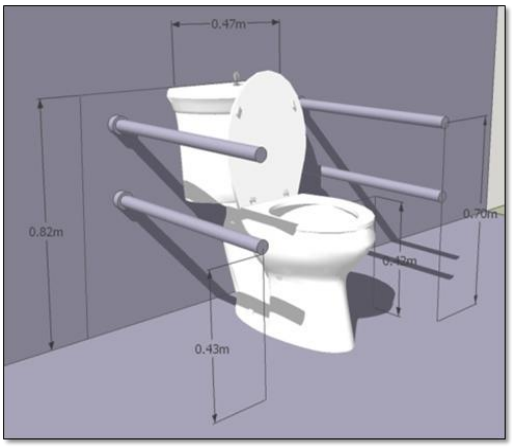


Figure 12

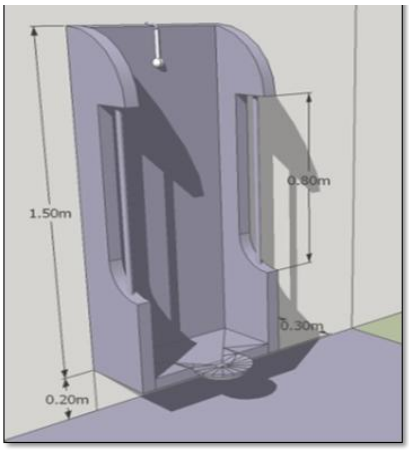
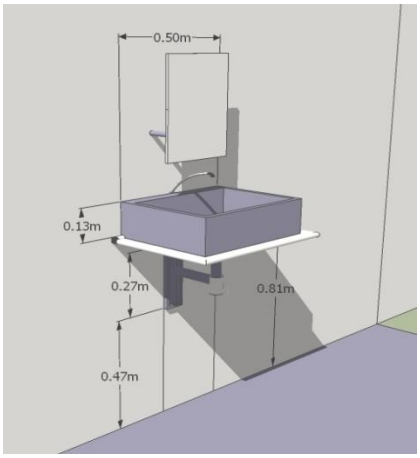


Figure 13



WASH BASIN

The wash basin is designed in such a way that it can be moved upwards and downwards, helping users of different height and mirror too can be rotated as per the requirement.

OTHER DESIGN ELEMENT

Mural: Wall mural is used as path direction for those who can identify this, simultaneously, enhances the interior value without any special treatment.

Figure 15

VIEWS

Figure 17

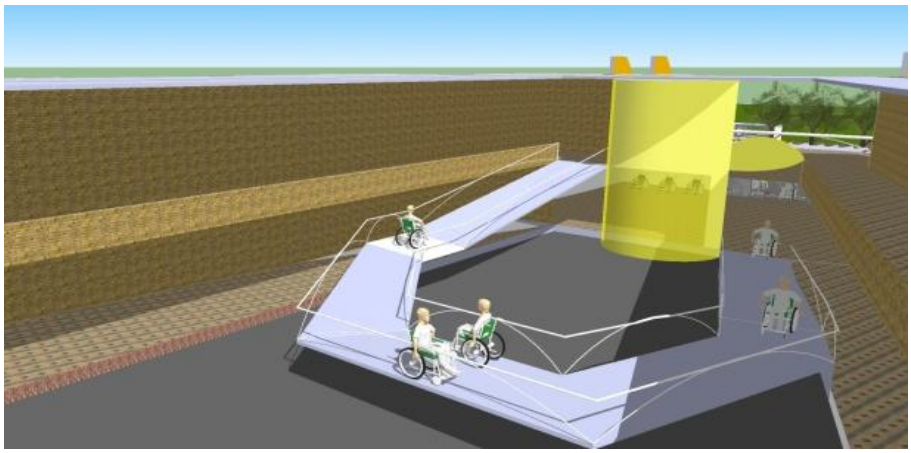


Figure 18

Figure 19

Figure 20

Figure 21

REFERENCES:

- ***Universal Design, A Manual of Practical Guidance for Architects by Selwyn Goldsmith***
- ***Time Saver Standards for Interior Design and Space Planning, by Joseph De Chiara, Julius Panero, Martin Zelnik***
- ***Architects' Data, 3rd edition, Ernst and Peter Neufert, edited by Bousmaha Baiche & Nicholas Williman***
- ***www.designforall.in as is accessed on January 2011***
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- ***The Principles of Universal Design, Center for Universal Design, NCSU by Connell, B.R., Jones, M., Mace, R., Mueller, J., Mullick, A.,Ostroff, E., Sanford, J., Steinfeld, E., Story, M. And Vanderheiden, G. North Carolina State University, Raleigh, NC.***

5. RESEARCH, DOCUMENTATION AND DESIGN INITIATIVES ON SOCIAL-ECONOMIC-CULTURAL EQUITY

…"The problem is not how to wipe out all differences, but how to unite with all differences intact." - Rabindranath Tagore… **Universal Design in India needs to address diversity as well as socio economic disparity that will define its width and depth in Indian context. The upcoming section has included some students' research, documentation and design works to address Social Equity by Design.**

HUDCO TROPHY FOR URBAN POOR

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CONTEXT:

Ever since the commencement of human civilisation, vulnerability has been a part and parcel to the weaker sections of the communities who have spent their entire lives in suffering and agony due to some reason or other. Even after 5000 years of existence it has been difficult to get rid of the concept and after effects of susceptibility. As for India with over 500 class-1 cities that account for the second largest population in the world which is supposed to surpass China by year 2025 has been steadily growing in urban context, has given rise to homelessness to less blessed people of our society. Homelessness, caused as a series of unconditional factor occurring algorithmically within an unsolicited flowchart can be termed as strategically planned phenomenon rather than being a perceived state of life. As per urban context, in the recent 10 years, Indian cities have encountered with an all-time high rate of migration from rural areas where people come in search of employment and becoming economically resilient. On the other hand such has not been the case.

Though New Delhi, the national capital of India accounts for more than 55000 people that are susceptible to homelessness even after the fact that these people in some or the other way constitute the powerhouse of our country, yet these people do not have the privilege of

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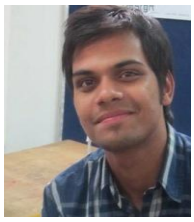


Anil
Chaudhary
B.Arch
student

living in a night shelter. India being a developing nation has a great majority of people under the line of poverty. These people are deprived of the adequate access in basic needs of life such as health, education, housing food, security, employment, justice and inequity. Moreover these are unidentified people in the urban context as they do not account for the net gross population in the urban context of the country. Homeless people mainly are skilled and unskilled workers, rickshaw pullers, hawkers, beggars who were not as providential in their skill for being employed. As a matter of fact it is sad to notice that 20% of this population has spent at least 7 years of their life in such inhumane conditions.

AIM AND PURPOSE:

The design aimed at creating a homeless shelter within a class 1 city of India which could cater to the needs of at least 100 homeless people. The design brought in the sense of belongingness for it was equally challenging to design for homeless and help and sustain them in the society.

WHY DELHI?

Homelessness as a problem is a nationwide disgrace to the largest democracy in the world. New Delhi, a class 1 city was chosen to confront this issue so as to send out a clear message to other cities who could not cater the needs of these less privileged people. In initial study it was also concluded that the city has far been neglecting

the population of homeless people which forms a major chunk of the society.

METHODOLOGY: ***(Please refer design sheets along with the text)***

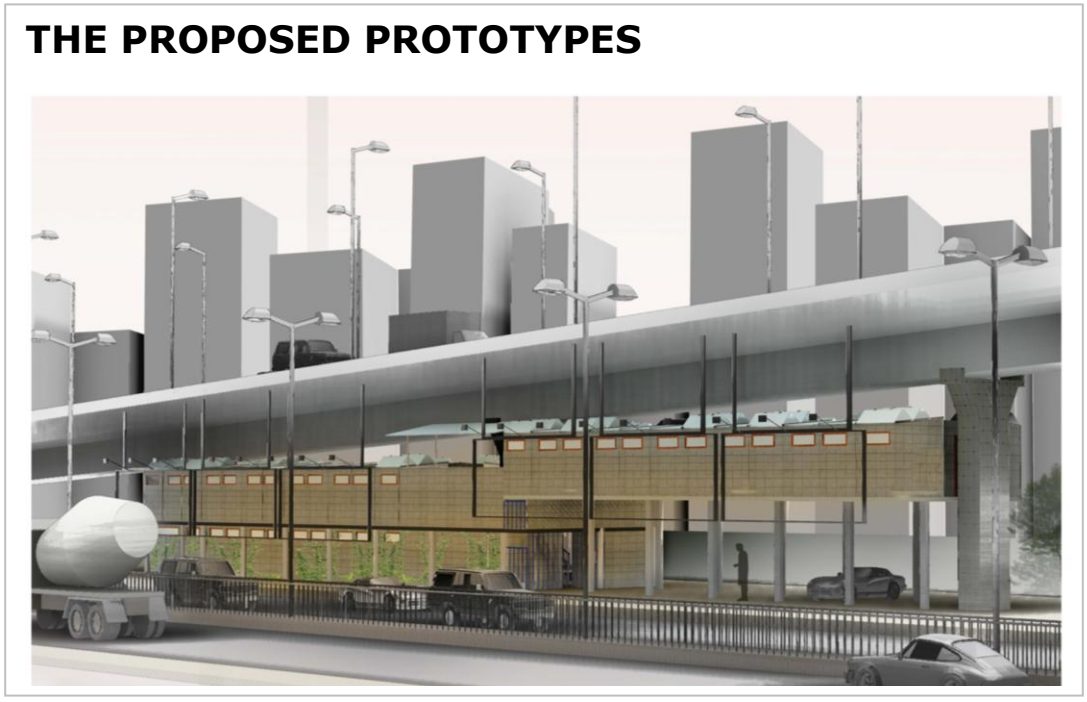
The identification of homeless people was the foremost obstacles as no one really knew as to where they lived. It was later concluded that their places included footpaths, under-bridge passes, down-town areas, railway stations and bus stops where they did their daily jobs during days while spent their nights nearby. Since Delhi is a tactically planned city, neither it was possible to cut out areas in the middle of the city and assign them plots nor it was feasible to take such a mass population outside city. Finally after thorough brainstorming it was realised that Delhi accounts for more than 1500 flyovers within its vicinity which never utilized the spaces below it. Every flyover had a sufficient space that could serve the purpose of at least 50 people in a well-planned approach. The final site chosen to create a prototype was one such flyover at ISBT, Kashmere Gate which had enough space for 100 people.

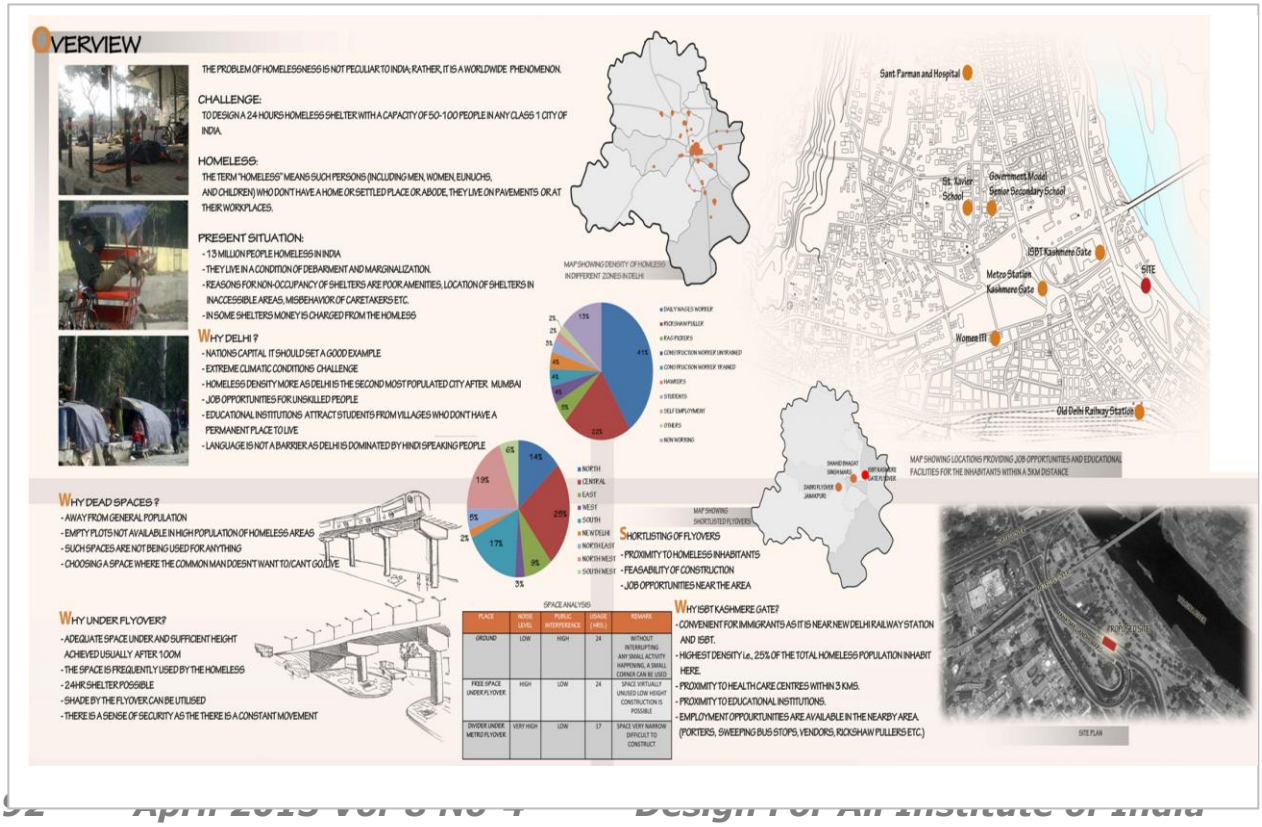
DESIGN CONCEPT: ***(Please refer design sheets along with the text)***

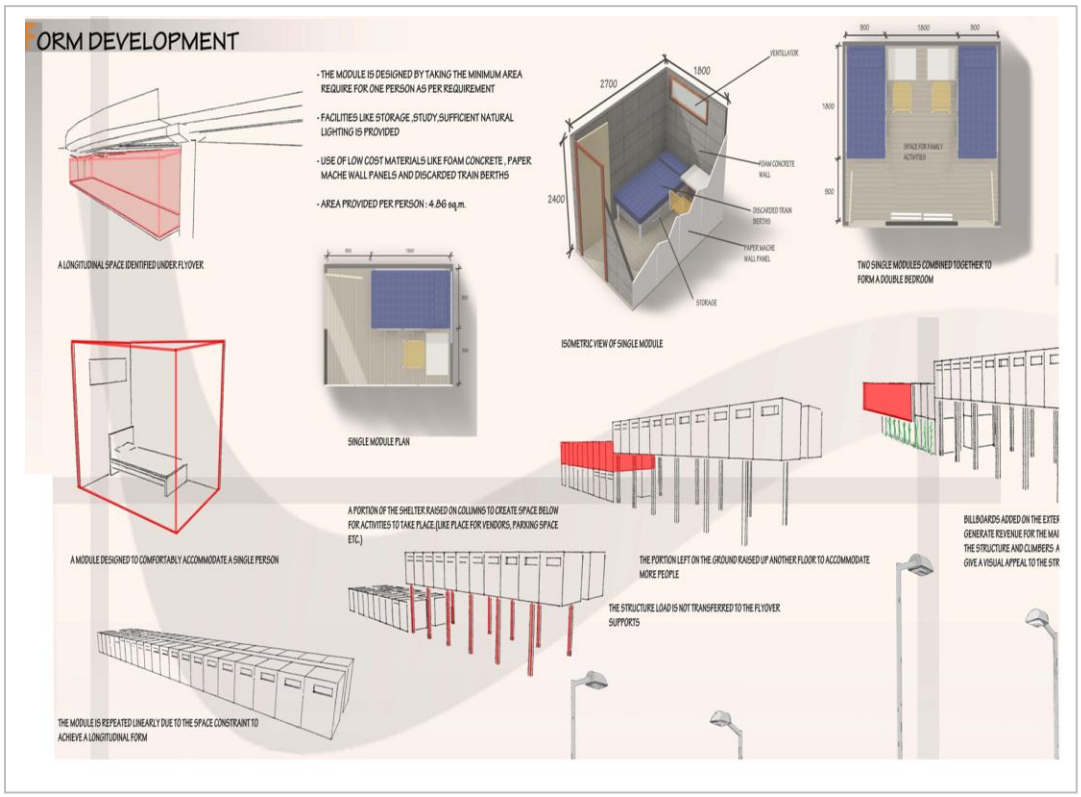
Since the design was below the flyover, natural shade was but obvious, but there was an urgent need to minimize the noise from the road traffic and tackling the water logging as Delhi faces heavy rainfall every year. Basic design intervention solved our structural problem when the prototype for 100 was elevated on numerous stilts with ramps running on its periphery. As for noise, they were tackled using perforated bill boards which minimized the noise levels on the inside of the module. While the design was more about

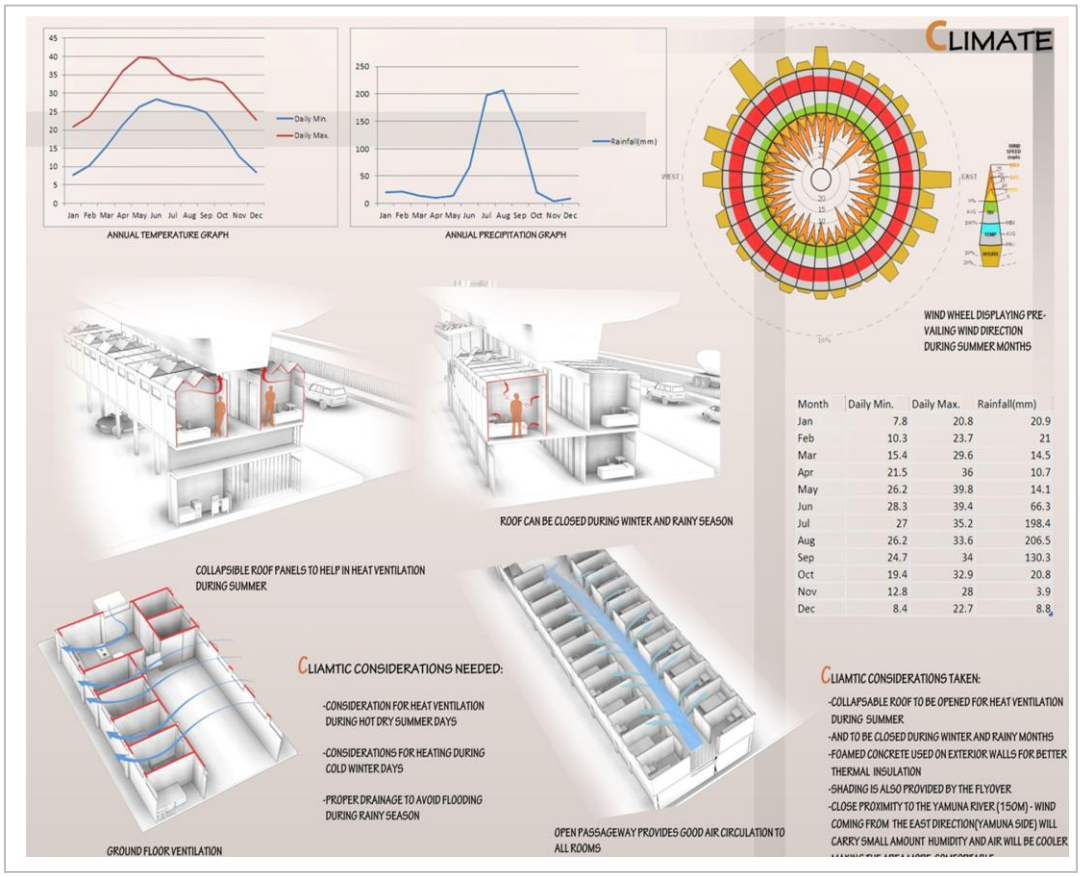
functionality, all the aspects were kept in mind while evolving it as the design should bring out belongingness and not discrimination of any sorts.

DESIGN SHEETS:

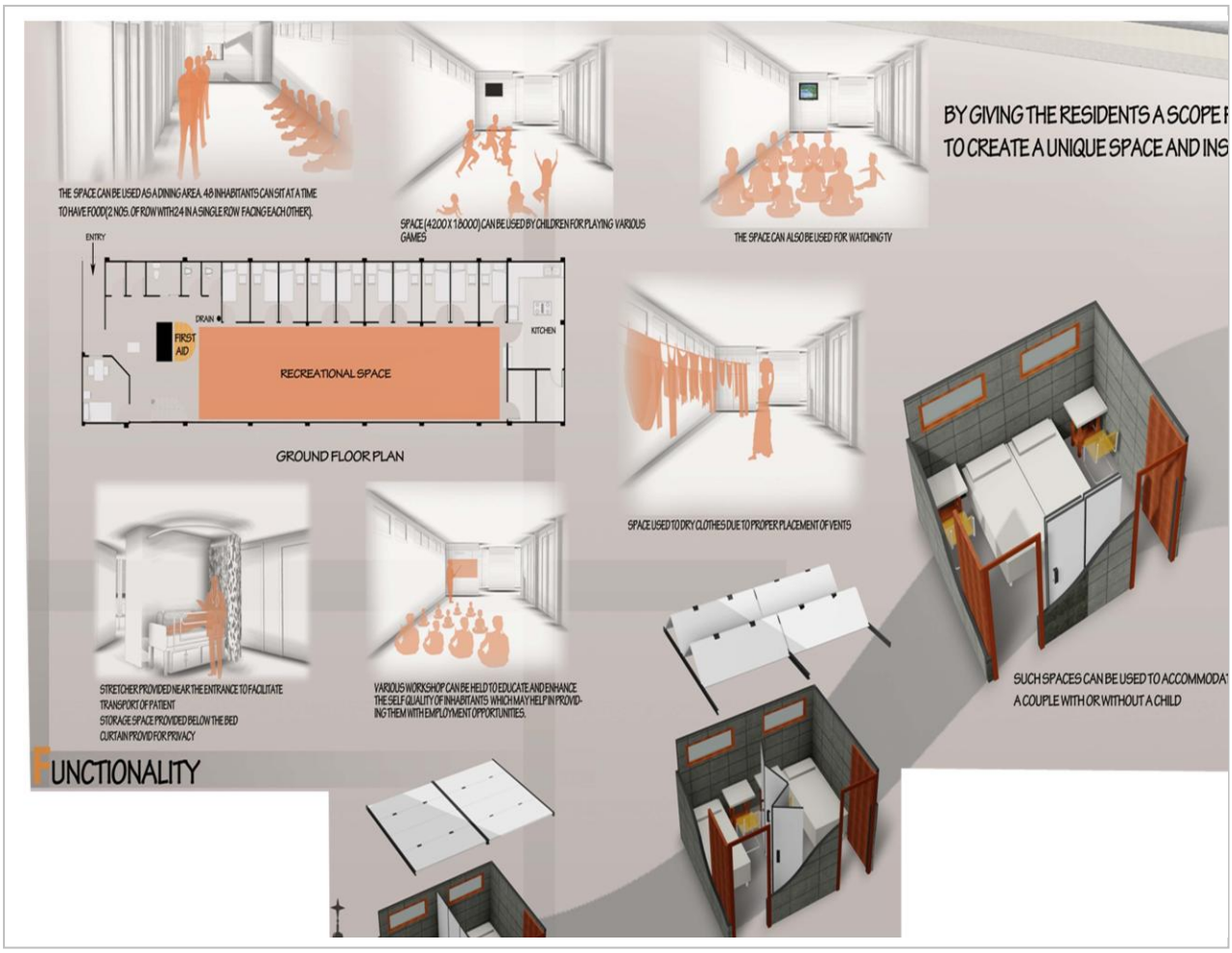








Month	Daily Min.	Daily Max.	Rainfall(mm)
Jan	7.8	20.8	20.9
Feb	10.3	23.7	21
Mar	15.4	29.6	14.5
Apr	21.5	36	10.7
May	26.2	39.8	14.1
Jun	28.3	39.4	66.3
Jul	27	35.2	198.4
Aug	26.2	33.6	206.5
Sep	24.7	34	130.3
Oct	19.4	32.9	20.8
Nov	12.8	28	3.9
Dec	8.4	22.7	8.8


THE SPACE CAN BE USED AS A DINING AREA. 48 INHABITANTS CAN SIT AT A TIME TO HAVE FOOD(2 NOS. OF ROW WITH 24 IN A SINGLE ROW FACING EACH OTHER).
SPACE (4200 X 18000) CAN BE USED BY CHILDREN FOR PLAYING VARIOUS GAMES
THE SPACE CAN ALSO BE USED FOR WATCHING TV
BY GIVING THE RESIDENTS A SCOPE
TO CREATE A UNIQUE SPACE AND INS
ENTRY
DRAIN
FIRST AID
RECREATIONAL SPACE
KITCHEN
GROUND FLOOR PLAN
SPACE USED TO DRY CLOTHES DUE TO PROPER PLACEMENT OF VENTS
SUCH SPACES CAN BE USED TO ACCOMMODA
A COUPLE WITH OR WITHOUT A CHILD
STRETCHER PROVIDED NEAR THE ENTRANCE TO FACILITATE TRANSPORT OF PATIENT
STORAGE SPACE PROVIDED BELOW THE BED
CURTAIN PROVID FOR PRIVACY
VARIOUS WORKSHOP CAN BE HELD TO EDUCATE AND ENHANCE THE SELF QUALITY OF INHABITANTS WHICH MAY HELP IN PROVID-ING THEM WITH EMPLOYMENT OPPORTUNITIES.
FUNCTIONALITY

INDIGENOUS ARCHITECTURE OF TODA TRIBE

THE TODAS

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This paper presents documentation study of a vulnerable isolated ethnic tribe in India. During this study we found out various amazing facts about the people of this unique tribe, who are believed to be the descendants of the early Dravidians. The undulating plateau of The Nilgiris, in the Western Ghats, in Tamil Nadu, a southern state of India, is where the Todas and other smaller tribal groups like the Badagas and the Kotas survive. Their population was around 900 to 1100 during the last century. Toda people live in loose settlements called "mund", merged in the natural Rolling Meadows and shola forests of the Nilgiris. They are a purely pastoral community, but nowadays they have turned to agriculture and other means of livelihood. Their traditional mode of life required an annual migration to established hot weather hamlets to provide their buffalo with new pasture. (A striking point, the women dress their hair in long ringlets on either side of their face and both sexes wear a white cotton robe crossed by broad red bands surrounded by dense black geometric embroidery. Today such clothes are mostly ceremonial only.

THE TODA WOMEN

In toda society, women are not treated equally. They do not enjoy the freedom as the men do. When a girl is very young, the male elders of the family decide who she is to marry. The Buffalos are exchanged between the families to mark the wedding according to their tradition. So when she grows enough, she is sent off to the boy's house. They also have children at a very early age.

Toda once practiced the relatively rare, although widespread (in Asia, Africa and Oceania), marriage custom whereby a woman has a plurality of husbands. According to traditional Toda practice, a woman in a polyandrous union was the shared spouse of a set of brothers, lived in a common home. But today, as with female infanticide, polyandry the practice no longer exists among the Toda. Social paternity, on the other hand, was and still remains, of crucial importance, for without it an individual has no social, economic or religious status in Toda society. Such paternity is bestowed, through ritual: the offering by a male (man or boy) of a symbolic bow-and-arrow to the pregnant woman, representing his acceptance of the fruit of her womb. The status of women in Toda tribe is quite poor. They are not given any consideration in the decision making body. The Toda tribal council is a group of elderly Toda Males selected by common consent for a particular dispute. They don't have any right of inheritance. It is restricted to the sons only. Also they are not allowed near the tribe's tall temples.

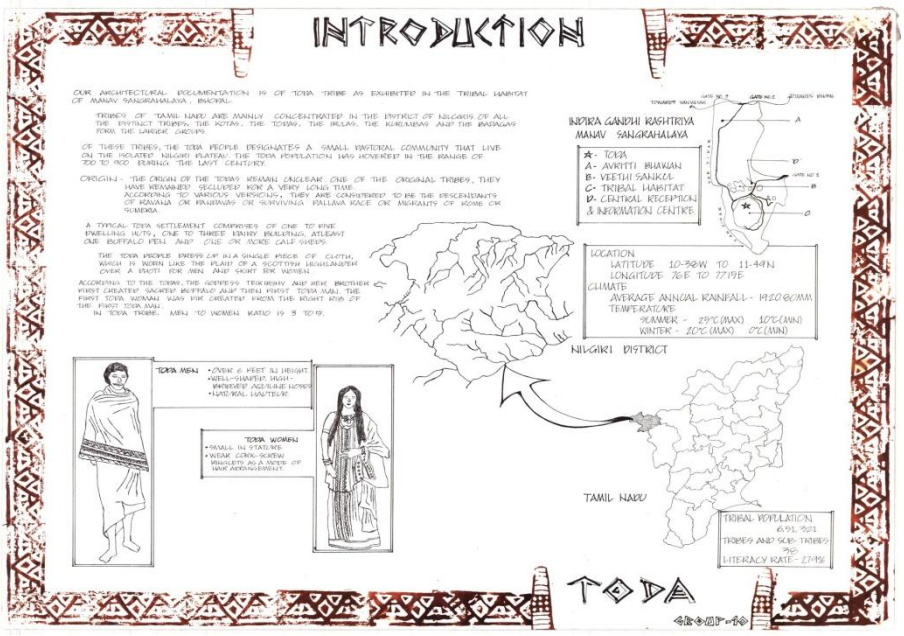
The women struggle because the flow of money is only between men. Most of the women's demands are never taken seriously within Toda areas. They do not have the consent for education even when they want to, even in present scenario. They are not able to find right man or an able husband in the tribe, because most of the times

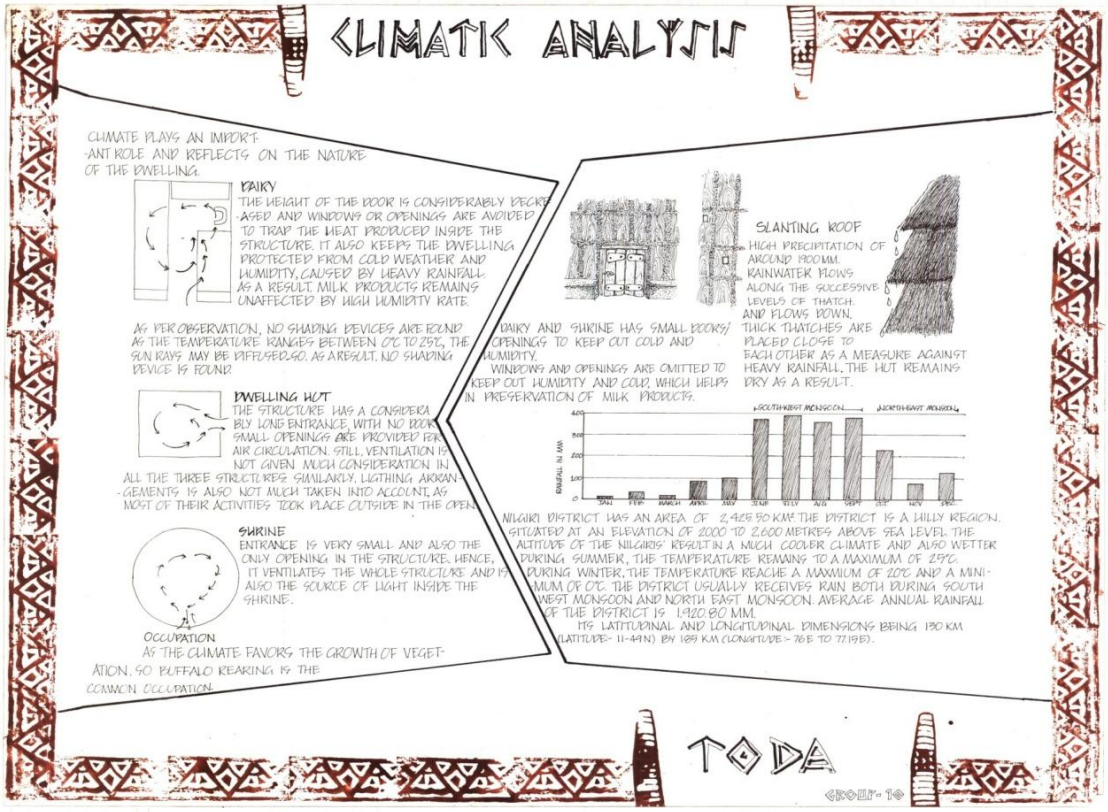
men go for agriculture. They are generally at a loss as they lease out their land to outsiders. And, when they need money, they take out even larger loans until they can't cope. When they can't cope with that, they start drinking; this ultimately leads to the deterioration of the families.

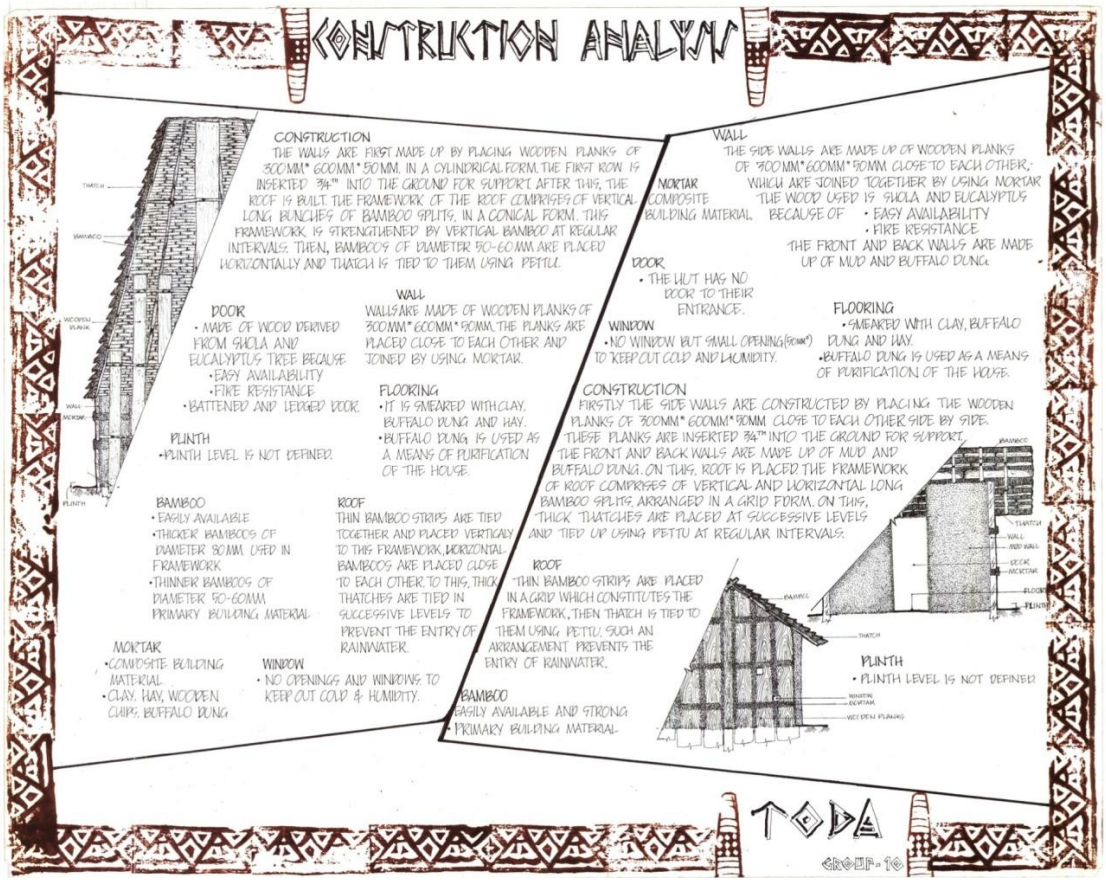
Nowadays, the Toda women are breaking the tradition and are marrying outside of their community, rejecting the older beliefs. They have started studying. Many families are converting to Christianity and this is slowly resulting in the breaking up of this small community. Though it has resulted in the up-gradation of women's status, but Toda women are still far from achieving socio-political and ritual parity with their men folk.

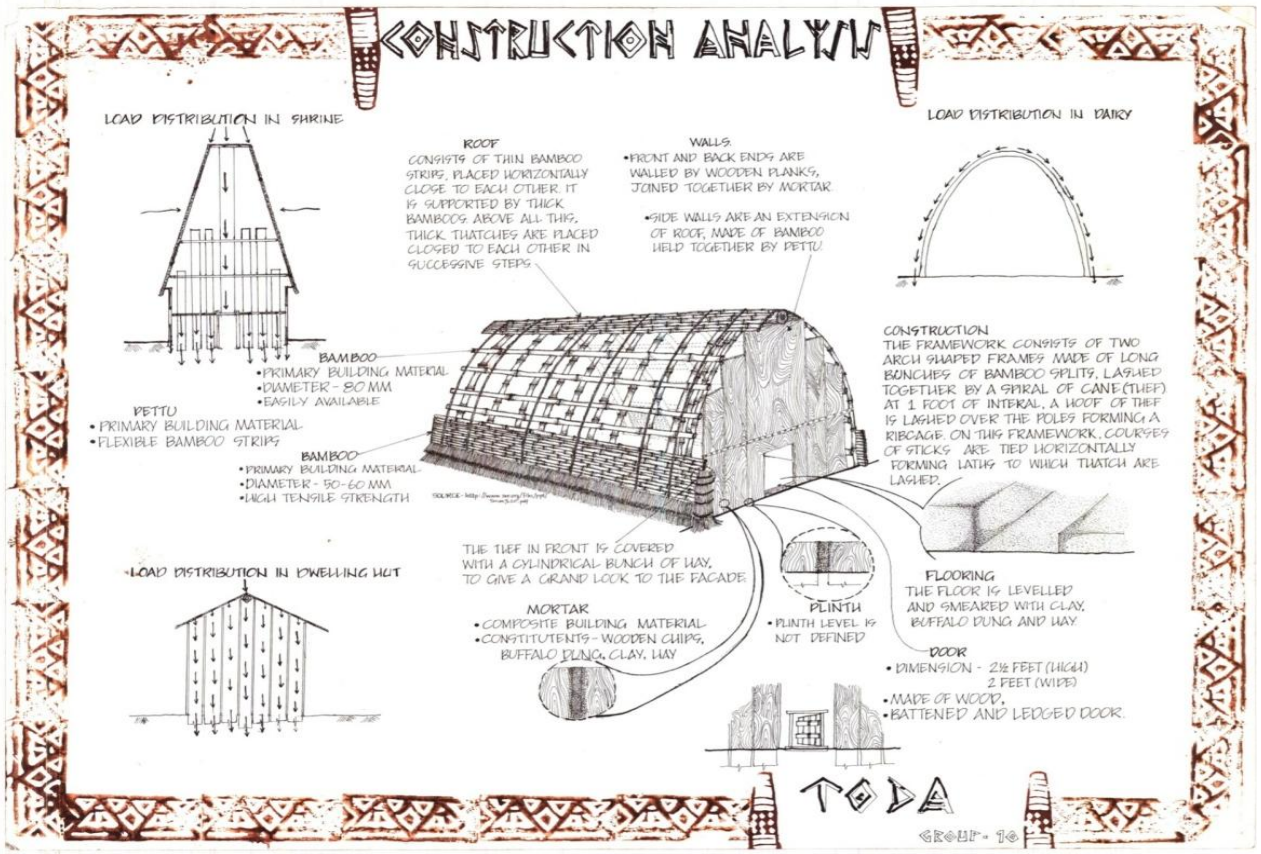
All these findings lead us to conclude that these people also deserve an opportunity to live their life as per their whims and wishes. Proper steps need to be taken for the education and the upliftment of the Toda women. Also, for the development of this tribe we need to provide equal social employment opportunities and accessibility.

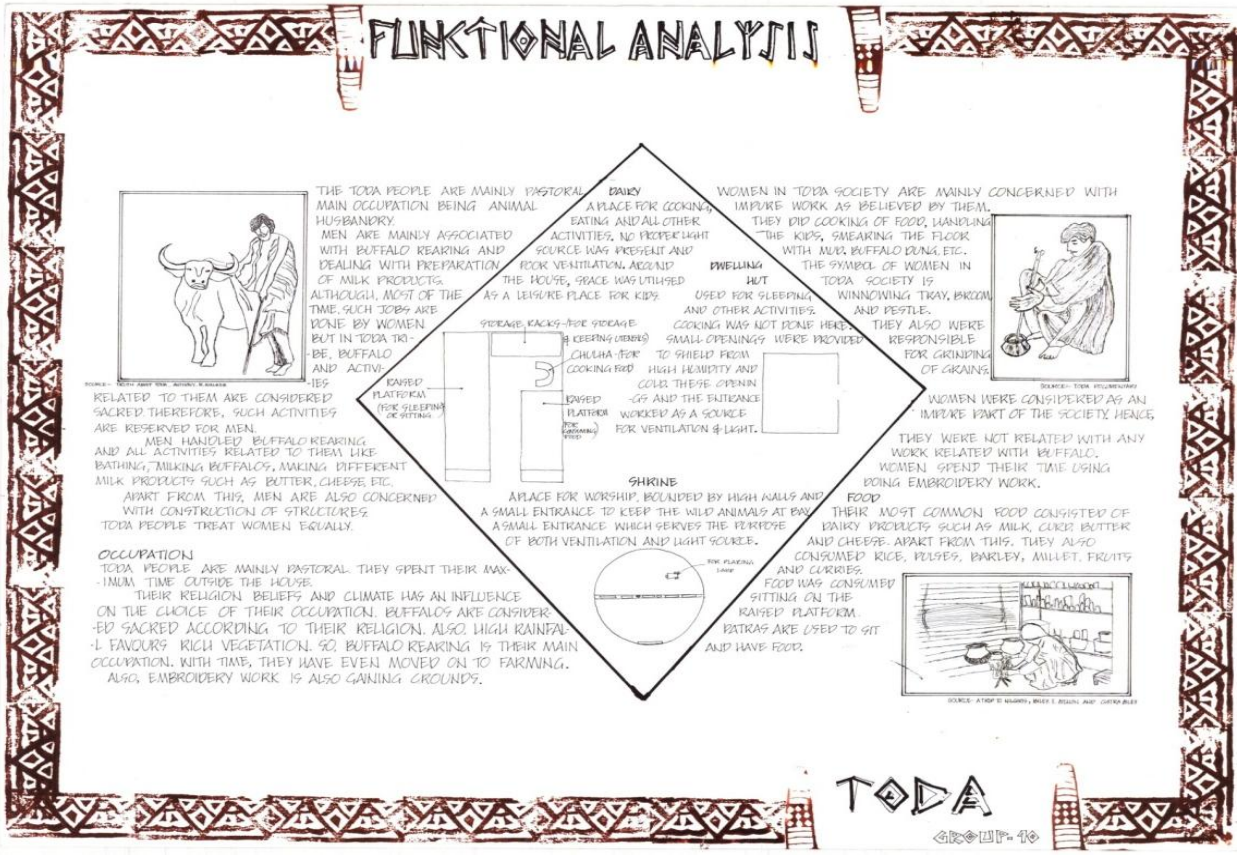
DOCUMENTATION SHEETS:

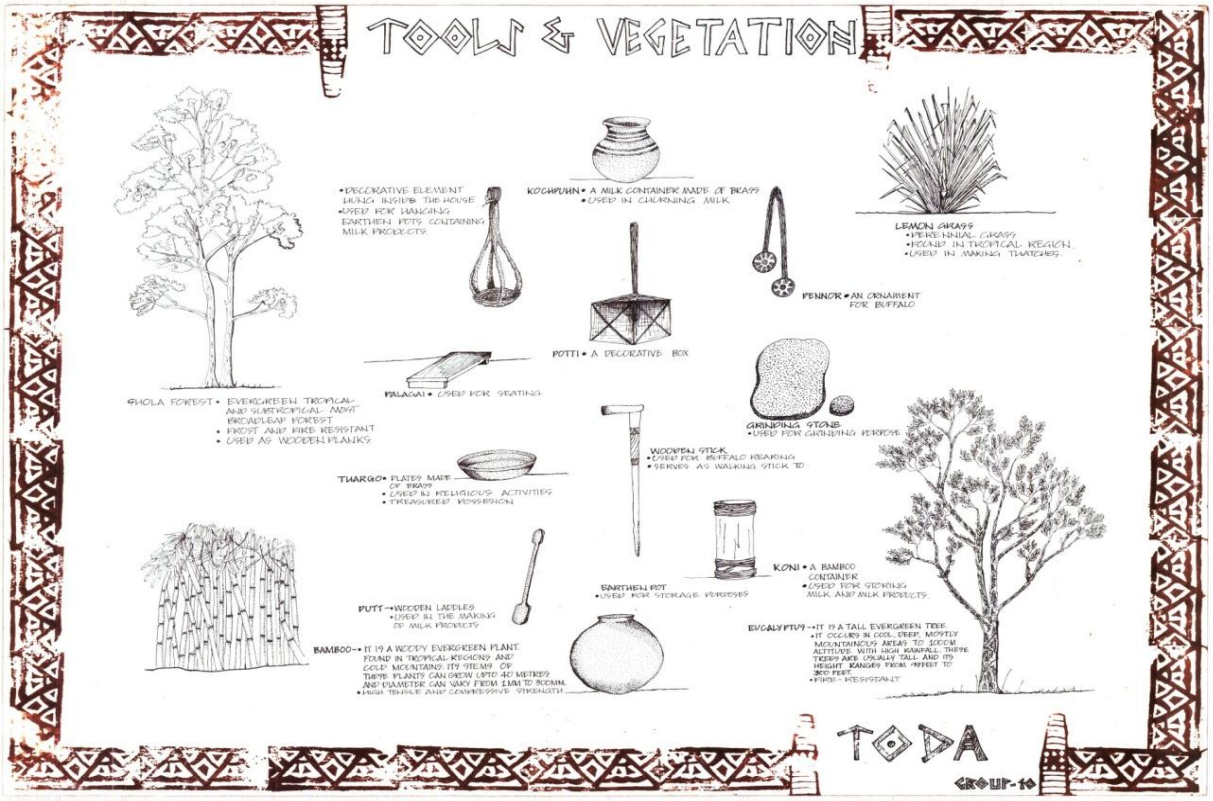


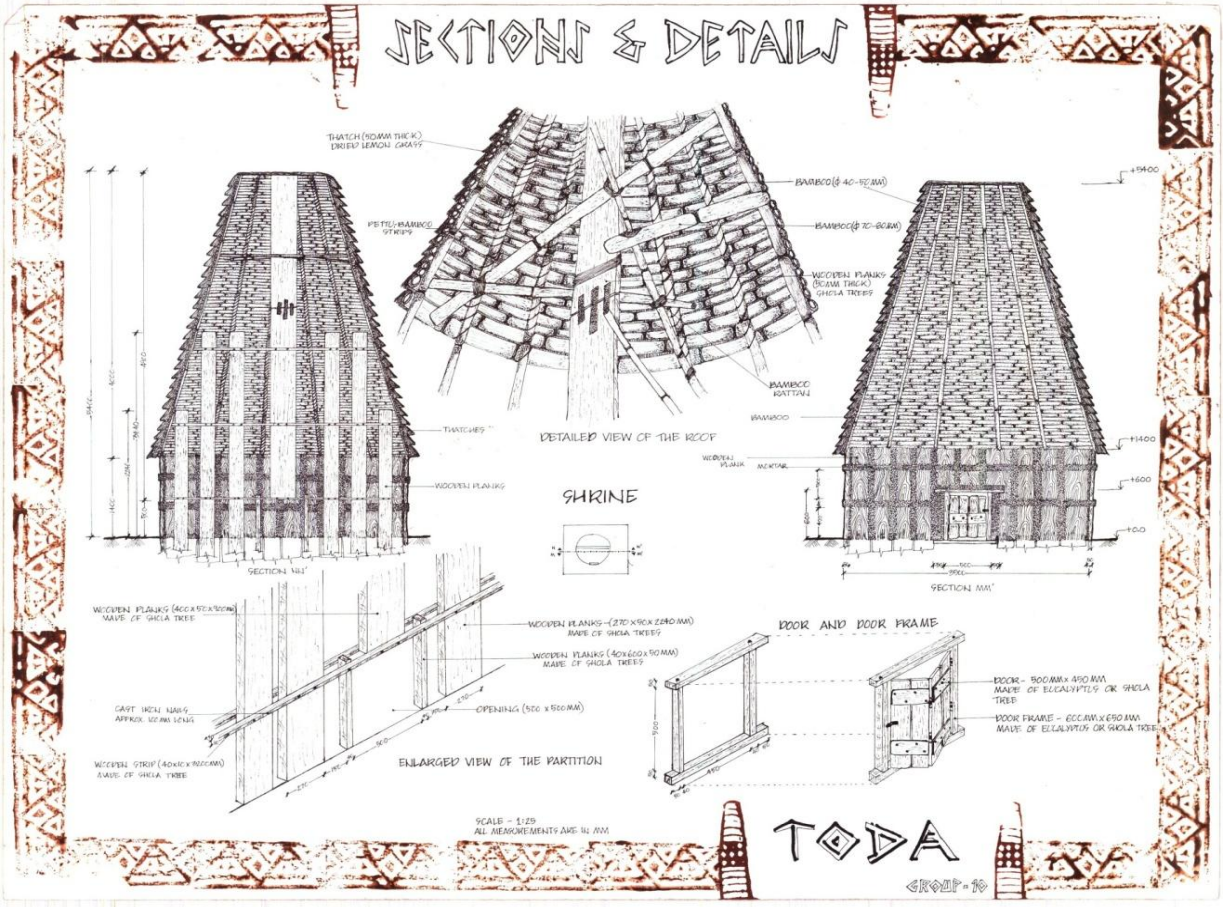

CLIMATIC ANALYSIS
CLIMATE PLAYS AN IMPORTANT ROLE AND REFLECTS ON THE NATURE OF THE DWELLING.
DAIRY
THE WEIGHT OF THE DOOR IS CONSIDERABLY DECREASED AND WINDOWS OR OPENINGS ARE AVOIDED TO TRAP THE HEAT PRODUCED INSIDE THE STRUCTURE. IT ALSO KEEPS THE DWELLING PROTECTED FROM COLD WEATHER AND HUMIDITY, CAUSED BY HEAVY RAINFALL. AS A RESULT, MILK PRODUCTS REMAINS UNAFFECTED BY HIGH HUMIDITY RATE.
AS PER OBSERVATION, NO SHADING DEVICES ARE FOUND AS THE TEMPERATURE RANGES BETWEEN 0°C TO 25°C, THE SUN RAYS MAY BE DIFFUSED SO, AS A RESULT, NO SHADING DEVICE IS FOUND.
DWELLING HUT
THE STRUCTURE HAS A CONSIDERABLY LONG ENTRANCE, WITH NO DOOR. SMALL OPENINGS ARE PROVIDED FOR AIR CIRCULATION. STILL, VENTILATION IS NOT GIVEN MUCH CONSIDERATION. IN ALL THE THREE STRUCTURES, SIMILARLY, LIGHTING ARRANGEMENTS IS ALSO NOT MUCH TAKEN INTO ACCOUNT, AS MOST OF THEIR ACTIVITIES TOOK PLACE OUTSIDE IN THE OPEN.
SHRINE
ENTRANCE IS VERY SMALL AND ALSO THE ONLY OPENING IN THE STRUCTURE. HENCE, IT VENTILATES THE WHOLE STRUCTURE AND IS ALSO THE SOURCE OF LIGHT INSIDE THE SHRINE.
OCCUPATION
AS THE CLIMATE FAVORS THE GROWTH OF VEGETATION, SO BUFFALO REARING IS THE COMMON OCCUPATION.
DAIRY AND SHRINE HAS SMALL DOORS/ OPENINGS TO KEEP OUT COLD AND HUMIDITY.
WINDOWS AND OPENINGS ARE OMITTED TO KEEP OUT HUMIDITY AND COLD, WHICH HELPS IN PRESERVATION OF MILK PRODUCTS.
SLANTING ROOF
HIGH PRECIPITATION OF AROUND 900MM. RAINWATER FLOWS ALONG THE SUCCESSIVE LEVELS OF THATCH, AND FLOWS DOWN. THICK THATCHES ARE PLACED CLOSE TO EACH OTHER AS A MEASURE AGAINST HEAVY RAINFALL. THE HUT REMAINS DRY AS A RESULT.
SOUTH WEST MONSOON
NORTH EAST MONSOON
RAINFALL IN MM
JAN FEB MARCH APRIL MAY JUNE JULY AUG SEP OCT NOV DEC
NILGIRI DISTRICT HAS AN AREA OF 2,425.50 KM². THE DISTRICT IS A HILLY REGION, SITUATED AT AN ELEVATION OF 2000 TO 2,600 METRES ABOVE SEA LEVEL. THE ALTITUDE OF THE NILGIRIS RESULT IN A MUCH COOLER CLIMATE AND ALSO WETTER. DURING SUMMER, THE TEMPERATURE REMAINS TO A MAXIMUM OF 25°C. DURING WINTER, THE TEMPERATURE REACHE A MAXIMUM OF 20°C AND A MINIMUM OF 0°C. THE DISTRICT USUALLY RECEIVES RAIN BOTH DURING SOUTH WEST MONSOON AND NORTH EAST MONSOON. AVERAGE ANNUAL RAINFALL OF THE DISTRICT IS 1,920.80 MM.
ITS LATITUDINAL AND LONGITUDINAL DIMENSIONS BEING 130 KM (LATITUDE- 11-44'N) BY 189 KM (LONGITUDE - 76°E TO 77.19°E).
TODA
GROUP - 10

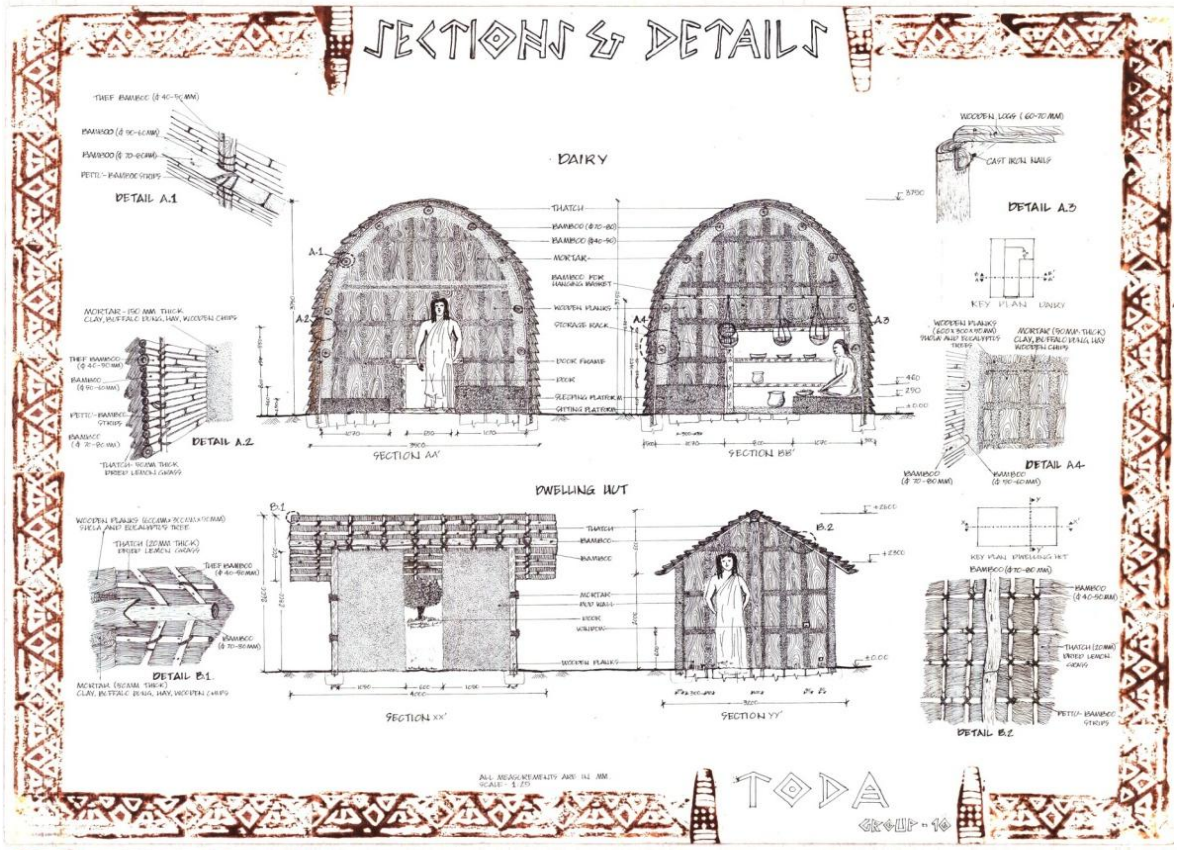

CONSTRUCTION ANALYSIS
CONSTRUCTION
THE WALLS ARE FIRST MADE UP BY PLACING WOODEN PLANKS OF 300MM*60MM*50MM. IN A CYLINDRICAL FORM. THE FIRST ROW IS INSERTED 3¼" INTO THE GROUND FOR SUPPORT. AFTER THIS, THE ROOF IS BUILT. THE FRAMEWORK OF THE ROOF COMPRISES OF VERTICAL LONG BUNCHES OF BAMBOO SPLITS, IN A CONICAL FORM. THIS FRAMEWORK IS STRENGTHENED BY VERTICAL BAMBOO AT REGULAR INTERVALS. THEN, BAMBOOS OF DIAMETER 50-60 MM ARE PLACED HORIZONTALLY AND THATCH IS TIED TO THEM USING PETTU.
DOOR
• MADE OF WOOD DERIVED FROM SHOLA AND EUCALYPTUS TREE BECAUSE
• EASY AVAILABILITY
• FIRE RESISTANCE
• BATTENED AND LEDGED DOOR.
WALL
WALLS ARE MADE OF WOODEN PLANKS OF 300MM*60MM*50MM. THE PLANKS ARE PLACED CLOSE TO EACH OTHER AND JOINED BY USING MORTAR.
FLOORING
• IT IS SMEARED WITH CLAY, BUFFALO DUNG AND HAY.
• BUFFALO DUNG IS USED AS A MEANS OF PURIFICATION OF THE HOUSE.
PLINTH
• PLINTH LEVEL IS NOT DEFINED.
BAMBOO
• EASILY AVAILABLE
• THICKER BAMBOOS OF DIAMETER 80 MM, USED IN FRAMEWORK
• THINNER BAMBOOS OF DIAMETER 50-60 MM, PRIMARY BUILDING MATERIAL
ROOF
THIN BAMBOO STRIPS ARE TIED TOGETHER AND PLACED VERTICALLY TO THE FRAMEWORK, HORIZONTAL BAMBOOS ARE PLACED CLOSE TO EACH OTHER. TO THIS, THICK THATCHES ARE TIED IN SUCCESSIVE LEVELS TO PREVENT THE ENTRY OF RAINWATER.
MORTAR
• COMPOSITE BUILDING MATERIAL
• CLAY, HAY, WOODEN CHIPS, BUFFALO DUNG
WINDOW
• NO OPENINGS AND WINDOWS TO KEEP OUT COLD & HUMIDITY.
WALL
THE SIDE WALLS ARE MADE UP OF WOODEN PLANKS OF 900MM*60MM*50MM CLOSE TO EACH OTHER; WHICH ARE JOINED TOGETHER BY USING MORTAR. THE WOOD USED IS SHOLA AND EUCALYPTUS BECAUSE OF
• EASY AVAILABILITY
• FIRE RESISTANCE
THE FRONT AND BACK WALLS ARE MADE UP OF MUD AND BUFFALO DUNG.
MORTAR
COMPOSITE BUILDING MATERIAL
DOOR
• THE HUT HAS NO DOOR TO THEIR ENTRANCE.
WINDOW
• NO WINDOW BUT SMALL OPENING (VENT) TO KEEP OUT COLD AND HUMIDITY.
FLOORING
• SMEARED WITH CLAY, BUFFALO DUNG AND HAY.
• BUFFALO DUNG IS USED AS A MEANS OF PURIFICATION OF THE HOUSE.
CONSTRUCTION
FIRSTLY THE SIDE WALLS ARE CONSTRUCTED BY PLACING THE WOODEN PLANKS OF 900MM*60MM*50MM CLOSE TO EACH OTHER SIDE BY SIDE. THESE PLANKS ARE INSERTED 3¼" INTO THE GROUND FOR SUPPORT. THE FRONT AND BACK WALLS ARE MADE UP OF MUD AND BUFFALO DUNG. ON THIS, ROOF IS PLACED. THE FRAMEWORK OF ROOF COMPRISES OF VERTICAL AND HORIZONTAL LONG BAMBOO SPLITS ARRANGED IN A GRID FORM. ON THIS, THICK THATCHES ARE PLACED AT SUCCESSIVE LEVELS AND TIED UP USING PETTU AT REGULAR INTERVALS.
ROOF
THIN BAMBOO STRIPS ARE PLACED IN A GRID WHICH CONSTITUTES THE FRAMEWORK. THEN THATCH IS TIED TO THEM USING PETTU. SUCH AN ARRANGEMENT PREVENTS THE ENTRY OF RAINWATER.
BAMBOO
EASILY AVAILABLE AND STRONG PRIMARY BUILDING MATERIAL
PLINTH
• PLINTH LEVEL IS NOT DEFINED
TODA
GROUP - 10

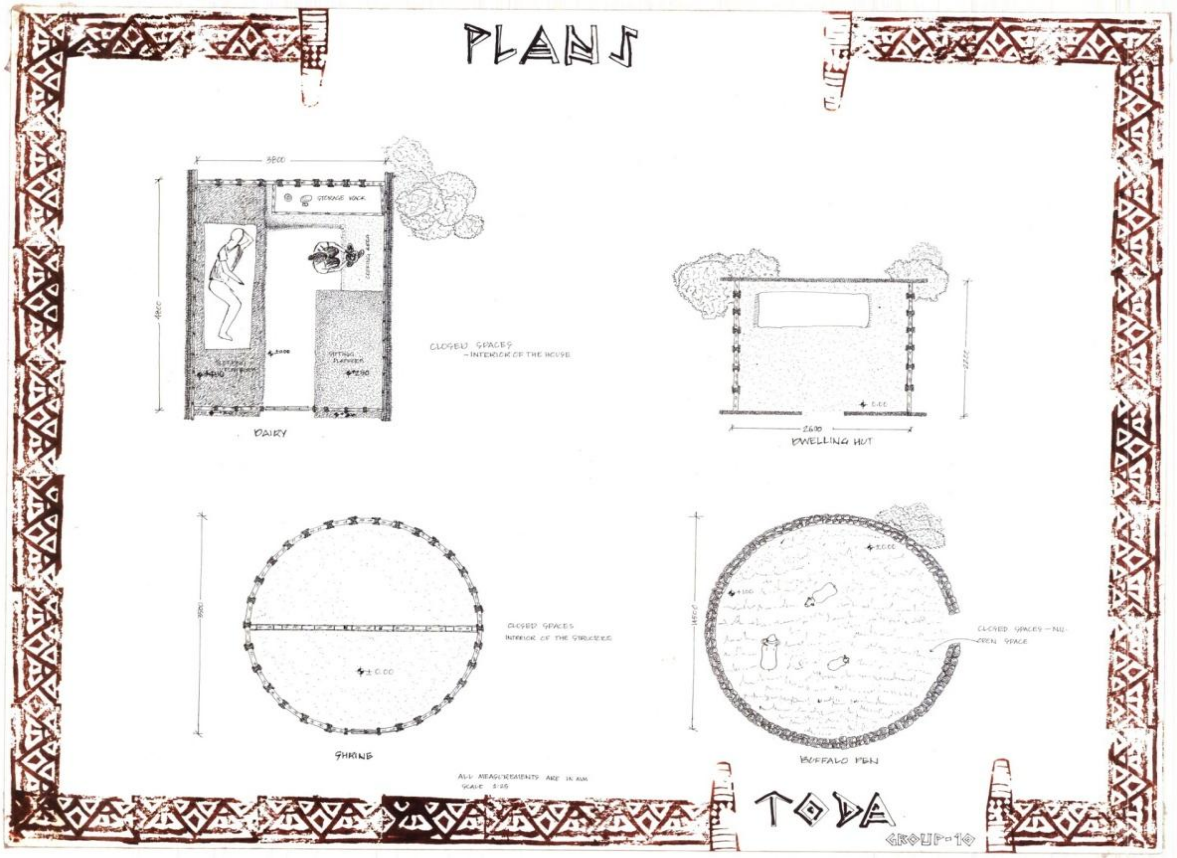

CONSTRUCTION ANALYSIS
LOAD DISTRIBUTION IN SHRINE
ROOF
CONSISTS OF THIN BAMBOO STRIPS, PLACED HORIZONTALLY CLOSE TO EACH OTHER. IT IS SUPPORTED BY THICK BAMBOOS ABOVE ALL THIS, THICK THATCHES ARE PLACED CLOSED TO EACH OTHER IN SUCCESSIVE STEPS.
WALLS
•FRONT AND BACK ENDS ARE WALLED BY WOODEN PLANKS, JOINED TOGETHER BY MORTAR.
•SIDE WALLS ARE AN EXTENSION OF ROOF, MADE OF BAMBOO HELD TOGETHER BY PETTU
LOAD DISTRIBUTION IN DAIRY
BAMBOO
•PRIMARY BUILDING MATERIAL
•DIAMETER - 80 MM.
•EASILY AVAILABLE
PETTU
• PRIMARY BUILDING MATERIAL
•FLEXIBLE BAMBOO STRIPS
BAMBOO
•PRIMARY BUILDING MATERIAL
•DIAMETER - 50-60 MM.
•HIGH TENSILE STRENGTH
CONSTRUCTION
THE FRAMEWORK CONSISTS OF TWO ARCH SHAPED FRAMES MADE OF LONG BUNCHES OF BAMBOO SPLITS, LASHED TOGETHER BY A SPIRAL OF CANE (THEF) AT 1 FOOT OF INTERVAL. A HOOP OF THEF IS LASHED OVER THE POLES FORMING A RIBCAGE. ON THIS FRAMEWORK, COURSES OF STICKS ARE TIED HORIZONTALLY FORMING LATHS TO WHICH THATCH ARE LASHED.
LOAD DISTRIBUTION IN DWELLING HUT
THE THEF IN FRONT IS COVERED WITH A CYLINDRICAL BUNCH OF HAY, TO GIVE A GRAND LOOK TO THE FACADE.
MORTAR
• COMPOSITE BUILDING MATERIAL
•CONSTITUTENTS - WOODEN CHIPS, BUFFALO DUNG, CLAY, HAY
PLINTH
• PLINTH LEVEL IS NOT DEFINED
FLOORING
THE FLOOR IS LEVELLED AND SMEARED WITH CLAY, BUFFALO DUNG AND HAY.
DOOR
• DIMENSION - 2½ FEET (HIGH) 2 FEET (WIDE)
• MADE OF WOOD.
•BATTENED AND LEDGED DOOR.
TODA
GROUP - 10

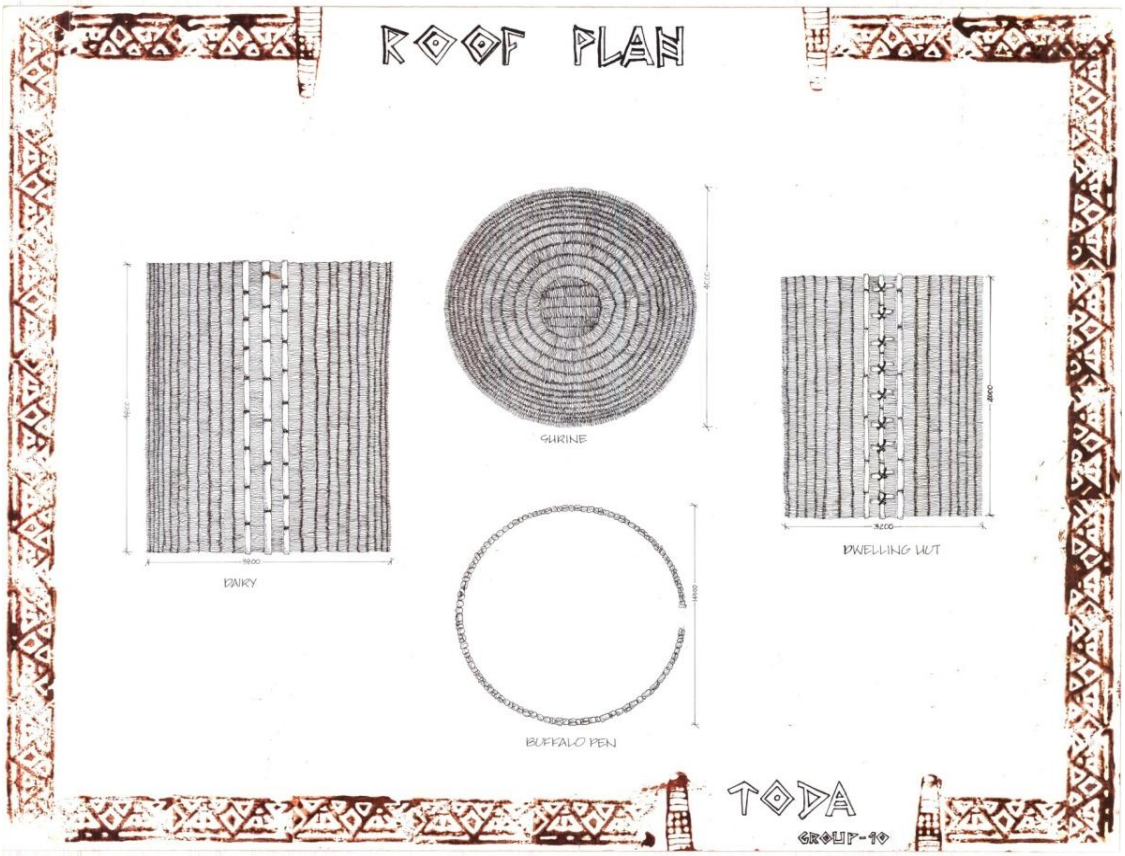

FUNCTIONAL ANALYSIS
THE TODA PEOPLE ARE MAINLY PASTORAL MAIN OCCUPATION BEING ANIMAL HUSBANDRY.
MEN ARE MAINLY ASSOCIATED WITH BUFFALO REARING AND DEALING WITH PREPARATION OF MILK PRODUCTS. ALTHOUGH, MOST OF THE TIME, SUCH JOBS ARE DONE BY WOMEN BUT IN TODA TRIBE, BUFFALO AND ACTIVITIES RELATED TO THEM ARE CONSIDERED SACRED THEREFORE, SUCH ACTIVITIES ARE RESERVED FOR MEN.
MEN HANDLED BUFFALO REARING AND ALL ACTIVITIES RELATED TO THEM LIKE BATHING, MILKING BUFFALOS, MAKING DIFFERENT MILK PRODUCTS SUCH AS BUTTER, CHEESE, ETC.
APART FROM THIS, MEN ARE ALSO CONCERNED WITH CONSTRUCTION OF STRUCTURES.
TODA PEOPLE TREAT WOMEN EQUALLY.
OCCUPATION
TODA PEOPLE ARE MAINLY PASTORAL. THEY SPENT THEIR MAXIMUM TIME OUTSIDE THE HOUSE.
THEIR RELIGION, BELIEFS AND CLIMATE HAS AN INFLUENCE ON THE CHOICE OF THEIR OCCUPATION. BUFFALOS ARE CONSIDERED SACRED ACCORDING TO THEIR RELIGION. ALSO, HIGH RAINFALL FAVOURS RICH VEGETATION. SO, BUFFALO REARING IS THEIR MAIN OCCUPATION. WITH TIME, THEY HAVE EVEN MOVED ON TO FARMING.
ALSO, EMBROIDERY WORK IS ALSO GAINING GROUNDS.
DAIRY
A PLACE FOR COOKING, EATING AND ALL OTHER ACTIVITIES. NO PROPER LIGHT SOURCE WAS PRESENT AND POOR VENTILATION. AROUND THE HOUSE, SPACE WAS UTILISED AS A LEISURE PLACE FOR KIDS.
DWELLING HUT
USED FOR SLEEPING AND OTHER ACTIVITIES. COOKING WAS NOT DONE HERE. SMALL OPENINGS WERE PROVIDED TO SHIELD FROM HIGH HUMIDITY AND COLD. THESE OPENINGS ALSO WORKED AS A SOURCE FOR VENTILATION & LIGHT.
STORAGE RACKS-FOR STORAGE
CHULHA-FOR COOKING FOOD
RAISED PLATFORM (FOR SLEEPING OR SITTING)
SHRINE
A PLACE FOR WORSHIP, BOUNDED BY HIGH WALLS AND A SMALL ENTRANCE TO KEEP THE WILD ANIMALS AT BAY. A SMALL ENTRANCE WHICH SERVES THE PURPOSE OF BOTH VENTILATION AND LIGHT SOURCE.
WOMEN IN TODA SOCIETY ARE MAINLY CONCERNED WITH IMPURE WORK AS BELIEVED BY THEM. THEY DID COOKING OF FOOD, HANDLING THE KIDS, SMEARING THE FLOOR WITH MUD, BUFFALO DUNG, ETC.
THE SYMBOL OF WOMEN IN TODA SOCIETY IS WINNOWING TRAY, BROOM AND PESTLE.
THEY ALSO WERE RESPONSIBLE FOR GRINDING OF GRAINS.
WOMEN WERE CONSIDERED AS AN IMPURE PART OF THE SOCIETY, HENCE, THEY WERE NOT RELATED WITH ANY WORK RELATED WITH BUFFALO.
WOMEN SPENT THEIR TIME USING DOING EMBROIDERY WORK.
FOOD
THEIR MOST COMMON FOOD CONSISTED OF DAIRY PRODUCTS SUCH AS MILK, CURD, BUTTER AND CHEESE. APART FROM THIS, THEY ALSO CONSUMED RICE, PULSES, BARLEY, MILLET, FRUITS AND CURRIES.
FOOD WAS CONSUMED SITTING ON THE RAISED PLATFORM. PATRAS ARE USED TO SIT AND HAVE FOOD.
TODA
GROUP - 10

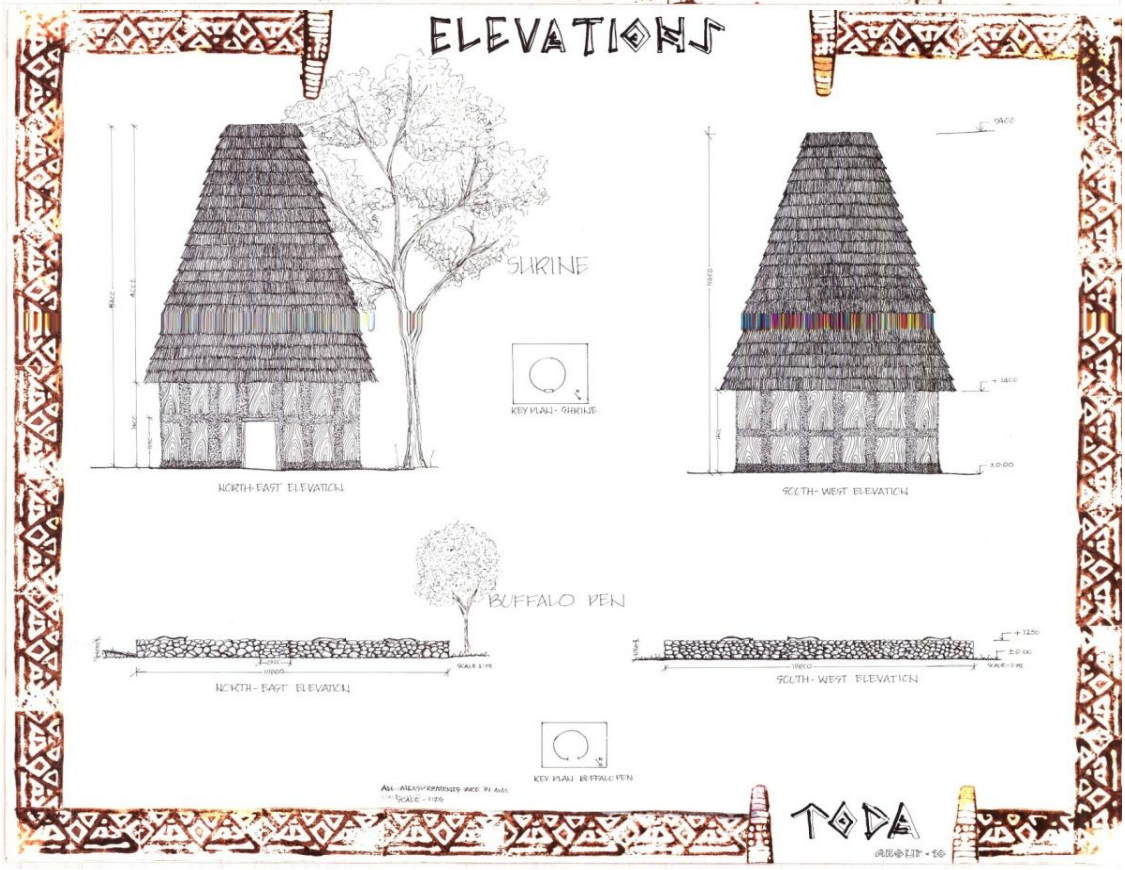

TOOLS & VEGETATION
•DECORATIVE ELEMENT HUNG INSIDE THE HOUSE
•USED FOR HANGING EARTHEN POTS CONTAINING MILK PRODUCTS
KOCHPUHN • A MILK CONTAINER MADE OF BRASS
•USED IN CHURNING MILK
LEMON GRASS
•PERENNIAL GRASS
•FOUND IN TROPICAL REGION
•USED IN MAKING THATCHES
PENNOR • AN ORNAMENT FOR BUFFALO
POTTI • A DECORATIVE BOX
PALAGAI • USED FOR SEATING
SHOLA FOREST • EVERGREEN TROPICAL AND SUBTROPICAL MOIST BROADLEAF FOREST
• FROST AND FIRE RESISTANT
• USED AS WOODEN PLANKS
GRINDING STONE
•USED FOR GRINDING PURPOSE
WOODEN STICK
•USED FOR BUFFALO HERDING
•SERVES AS WALKING STICK TO
THARGO • PLATES MADE OF BRASS
• USED IN RELIGIOUS ACTIVITIES
• TREASURED POSSESSION
KONI • A BAMBOO CONTAINER
•USED FOR STORING MILK AND MILK PRODUCTS
EARTHEN POT
•USED FOR STORAGE PURPOSES
PUTT → WOODEN LADDLES
•USED IN THE MAKING OF MILK PRODUCTS
BAMBOO → IT IS A WOODY EVERGREEN PLANT FOUND IN TROPICAL REGIONS AND COLD MOUNTAINS ITS STEMS OR THESE PLANTS CAN GROW UPTO 40 METRES AND DIAMETER CAN VARY FROM 1MM TO 300MM.
• HIGH TENSILE AND COMPRESSIVE STRENGTH
EUCALYPTUS → IT IS A TALL EVERGREEN TREE
• IT OCCURS IN COOL, DEEP, MOSTLY MOUNTAINOUS AREAS TO 3000M ALTITUDE WITH HIGH RAINFALL THESE TREES ARE USUALLY TALL AND ITS HEIGHT RANGES FROM 197FEET TO 300 FEET
• FIRE - RESISTANT
TODA
GROUP-10

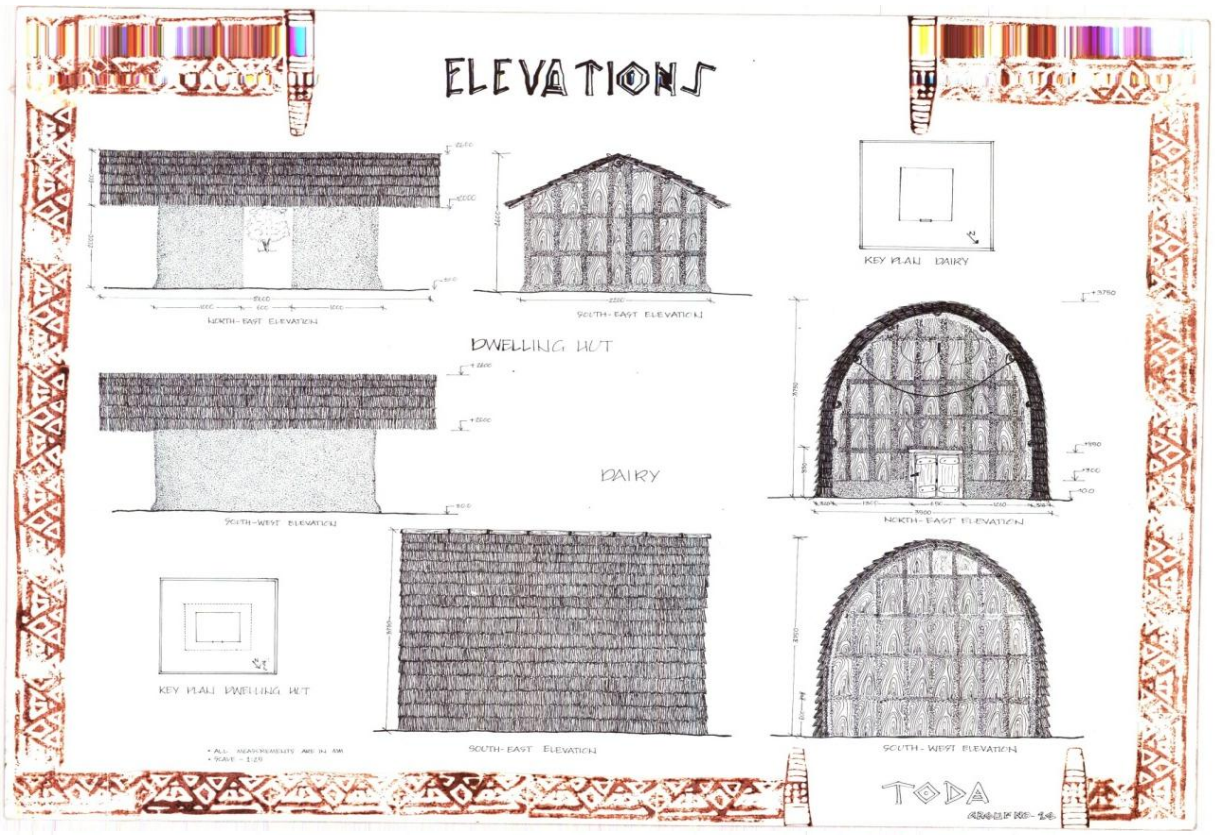

SECTIONS & DETAILS
THATCH (150MM THICK) DRIED LEMON GRASS
BAMBOO (Ø 40-50 MM)
BAMBOO (Ø 70-80 MM)
WOODEN PLANKS (150MM THICK) SHOLA TREES
BAMBOO MATTAN
DETAILED VIEW OF THE ROOF
THATCHES
WOODEN PLANKS
SECTION YY'
SHRINE
BAMBOO
WOODEN PLANK
MORTAR
+1400
+600
+0.0
SECTION XX'
WOODEN PLANKS (400 X 150 X 300MM) MADE OF SHOLA TREE
WOODEN PLANKS (270 X 90 X 2240 MM) MADE OF SHOLA TREES
WOODEN PLANKS (40 X 600 X 50 MM) MADE OF SHOLA TREES
CAST IRON NAILS APPROX. 100 MM LONG
OPENING (500 X 500 MM)
WOODEN STRIP (40 X 10 X 1800 MM) MADE OF SHOLA TREE
ENLARGED VIEW OF THE PARTITION
DOOR AND DOOR FRAME
DOOR - 900 MM X 490 MM MADE OF EUCALYPTUS OR SHOLA TREE
DOOR FRAME - 800 M.M. X 690 MM MADE OF EUCALYPTUS OR SHOLA TREE
SCALE - 1:25
ALL MEASUREMENTS ARE IN MM
TODA
GROUP-10

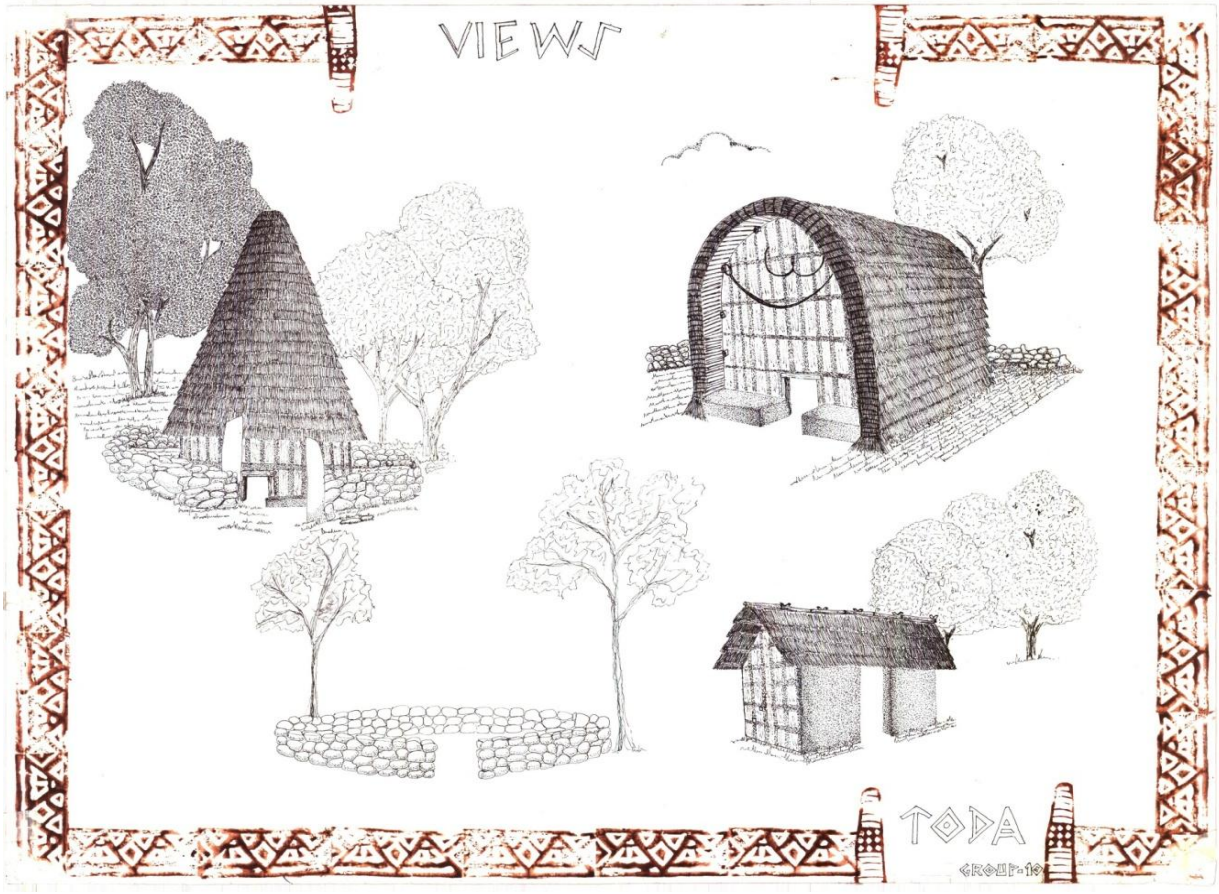

SECTIONS & DETAILS
DAIRY
DETAIL A.1
DETAIL A.2
DETAIL A.3
DETAIL A.4
SECTION AA'
SECTION BB'
DWELLING HUT
DETAIL B.1
DETAIL B.2
SECTION XX'
SECTION YY'
TODA
GROUP-10

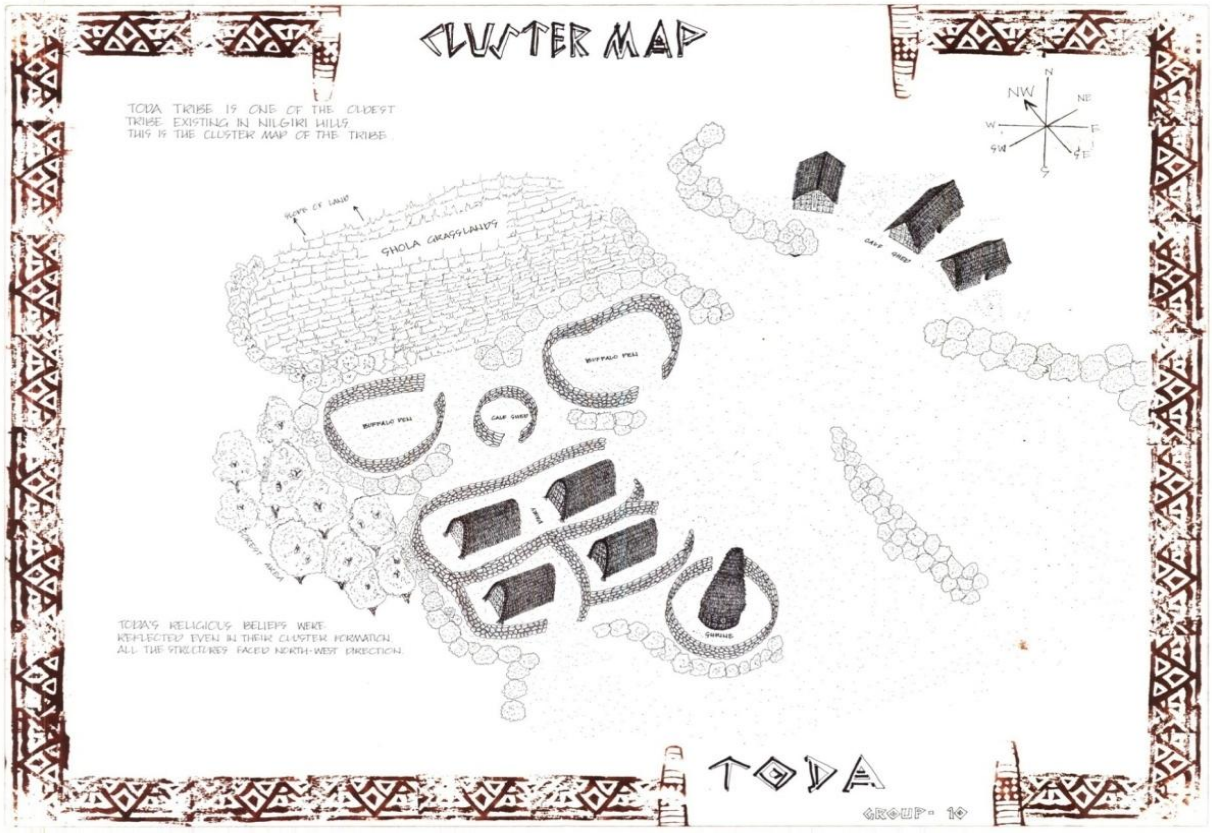

PLANS
DAIRY
CLOSED SPACES
- INTERIOR OF THE HOUSE
DWELLING HUT
SHRINE
CLOSED SPACES
INTERIOR OF THE STRUCTURE
BUFFALO PEN
CLOSED SPACES - NIL
OPEN SPACE
TODA
GROUP-10

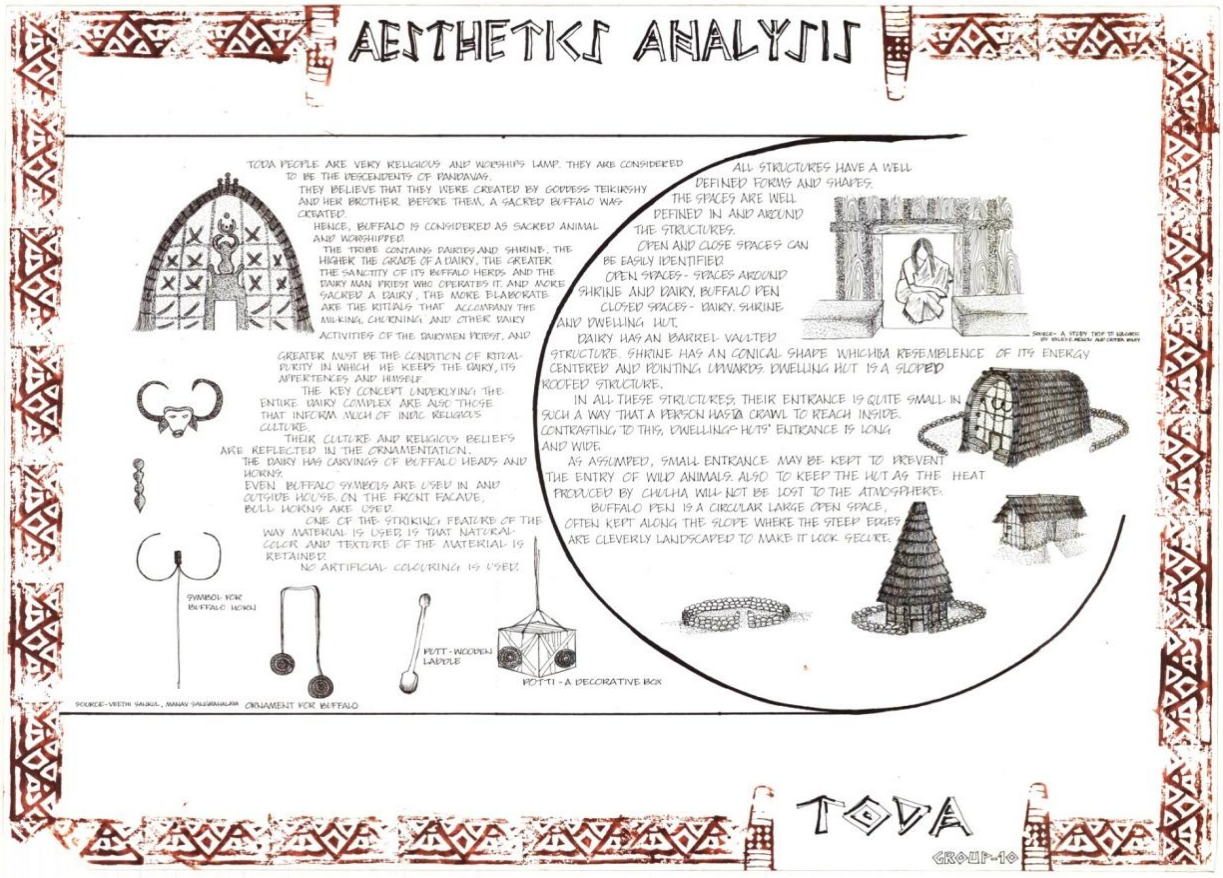

ROOF PLAN
SHRINE
DAIRY
DWELLING HUT
BUFFALO PEN
TODA
GROUP-10


ELEVATIONS
SHRINE
KEY PLAN - SHRINE
NORTH-EAST ELEVATION
SOUTH-WEST ELEVATION
BUFFALO PEN
NORTH-EAST ELEVATION
SOUTH-WEST ELEVATION
KEY PLAN - BUFFALO PEN
TODA
GROUP - 10


ELEVATIONS
KEY PLAN DAIRY
NORTH-EAST ELEVATION
SOUTH-EAST ELEVATION
DWELLING HUT
DAIRY
SOUTH-WEST ELEVATION
NORTH-EAST ELEVATION
KEY PLAN DWELLING HUT
SOUTH-EAST ELEVATION
SOUTH-WEST ELEVATION
TODA


VIEWS
TODA


CLUSTER MAP
TODA TRIBE IS ONE OF THE OLDEST TRIBE EXISTING IN NILGIRI HILLS. THIS IS THE CLUSTER MAP OF THE TRIBE.
SHOLA GRASSLANDS
BUFFALO PEN
CALF SHED
SHRINE
TODA'S RELIGIOUS BELIEFS WERE REFLECTED EVEN IN THEIR CLUSTER FORMATION. ALL THE STRUCTURES FACED NORTH-WEST DIRECTION.
TODA
GROUP- 10


AESTHETICS ANALYSIS
TODA PEOPLE ARE VERY RELIGIOUS AND WORSHIPS LAMP. THEY ARE CONSIDERED TO BE THE DESCENDENTS OF PANDAVAS.
THEY BELIEVE THAT THEY WERE CREATED BY GODDESS TEIKIRSHY AND HER BROTHER. BEFORE THEM, A SACRED BUFFALO WAS CREATED.
HENCE, BUFFALO IS CONSIDERED AS SACRED ANIMAL AND WORSHIPPED.
THE TRIBE CONTAINS DAIRIES AND SHRINE. THE HIGHER THE GRADE OF A DAIRY, THE GREATER THE SANCTITY OF ITS BUFFALO HERDS AND THE DAIRY MAN PRIEST WHO OPERATES IT. AND MORE SACRED A DAIRY, THE MORE ELABORATE ARE THE RITUALS THAT ACCOMPANY THE MILKING, CHURNING AND OTHER DAIRY ACTIVITIES OF THE DAIRYMEN PRIEST, AND GREATER MUST BE THE CONDITION OF RITUAL PURITY IN WHICH HE KEEPS THE DAIRY, ITS APPERTENCES AND HIMSELF.
THE KEY CONCEPT UNDERLYING THE ENTIRE DAIRY COMPLEX ARE ALSO THOSE THAT INFORM MUCH OF INDIC RELIGIOUS CULTURE.
THEIR CULTURE AND RELIGIOUS BELIEFS ARE REFLECTED IN THE ORNAMENTATION.
THE DAIRY HAS CARVINGS OF BUFFALO HEADS AND HORNS.
EVEN BUFFALO SYMBOLS ARE USED IN AND OUTSIDE HOUSE. ON THE FRONT FACADE, BULL HORNS ARE USED.
ONE OF THE STRIKING FEATURE OF THE WAY MATERIAL IS USED, IS THAT NATURAL COLOR AND TEXTURE OF THE MATERIAL IS RETAINED.
NO ARTIFICIAL COLOURING IS USED.
ALL STRUCTURES HAVE A WELL DEFINED FORMS AND SHAPES.
THE SPACES ARE WELL DEFINED IN AND AROUND THE STRUCTURES.
OPEN AND CLOSE SPACES CAN BE EASILY IDENTIFIED.
OPEN SPACES - SPACES AROUND SHRINE AND DAIRY, BUFFALO PEN
CLOSED SPACES - DAIRY, SHRINE AND DWELLING HUT.
DAIRY HAS AN BARREL VAULTED STRUCTURE. SHRINE HAS AN CONICAL SHAPE WHICH IS A RESEMBLENCE OF ITS ENERGY CENTERED AND POINTING UPWARDS. DWELLING HUT IS A SLOPED ROOFED STRUCTURE.
IN ALL THESE STRUCTURES, THEIR ENTRANCE IS QUITE SMALL IN SUCH A WAY THAT A PERSON HAS TO CRAWL TO REACH INSIDE. CONTRASTING TO THIS, DWELLINGS HUTS' ENTRANCE IS LONG AND WIDE.
AS ASSUMPED, SMALL ENTRANCE MAY BE KEPT TO PREVENT THE ENTRY OF WILD ANIMALS. ALSO TO KEEP THE HUT AS THE HEAT PRODUCED BY CHULHA WILL NOT BE LOST TO THE ATMOSPHERE.
BUFFALO PEN IS A CIRCULAR LARGE OPEN SPACE, OFTEN KEPT ALONG THE SLOPE WHERE THE STEEP EDGES ARE CLEVERLY LANDSCAPED TO MAKE IT LOOK SECURE.
SYMBOL FOR BUFFALO HORN
POTT - WOODEN LADDLE
POTTI - A DECORATIVE BOX
ORNAMENT FOR BUFFALO
TODA
GROUP-10

REDESIGN OF 'GAURIGAT' FOR UNIVERSAL ACCESS

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DESIGN CONTEXT:

This paper presents a redevelopment/ redesign project of Gaurighat, riverfront of holy river Narmada at Jabalpur, Madhya Pradesh, India. The aim of this redesign project was to provide the solution to various prevailing problems related to accessibility, drainage, cleanliness, circulation during the festive months.

METHODOLOGY:

The 10 hour competition started with a site visit to Gaurighat in the morning at 6, these 10 hours were divided into different sections as follows. Introduction to the design problem 30 minutes Site visit for 2 hours.

Design sections each of 2 hours.

Last design section of 1:30 hours.

DESIGN SOLUTION: *(Please Refer design sheets along with the text)*

Our solutions focused on the most important circulation and movement areas. So in order to make the whole area accessible, we started off with the stairs which were the only way to descend to the Ghat, and were completely out of proportion with huge risers, which made the main circulation to the ghat completely inaccessible, not only for the old age population but also for the handicapped.

So to improve upon this, we suggested a staircase that inculcated the basic anthropometry required along with integrated ramp which could be used by the disabled to access the ghat. Moreover, the path was provided with tactile pavings throughout, which could make it easier for the blind or visually impaired.

The next problem was to improve the drainage system and maintain a standard hygiene on the ghats. So we used the natural terrain difference to drain the waste water from the Ghats to a nearby sewage line.

This proposal also included the relocation of the pandits and providing them a specific space to sit, so as to maintain a proper flow of the people who came for the Ghat Darshan. On the Ghat, there was no provision for changing rooms or private areas for the females, who visit for taking the sacred bath in the Gaurighat. So we provided with a series of changing rooms. The basic structure of these changing rooms was proposed to be made up of modular steel, which can be assembled anywhere on the ghat as per their requirements and can be dismantled in case of flooding of the ghat during monsoon. The roof of these changing rooms was made with Polytetraethylene (PTFE). Also long span structures were also designed to serve the bhandaras and obituary ceremonies which are held on the Ghats.

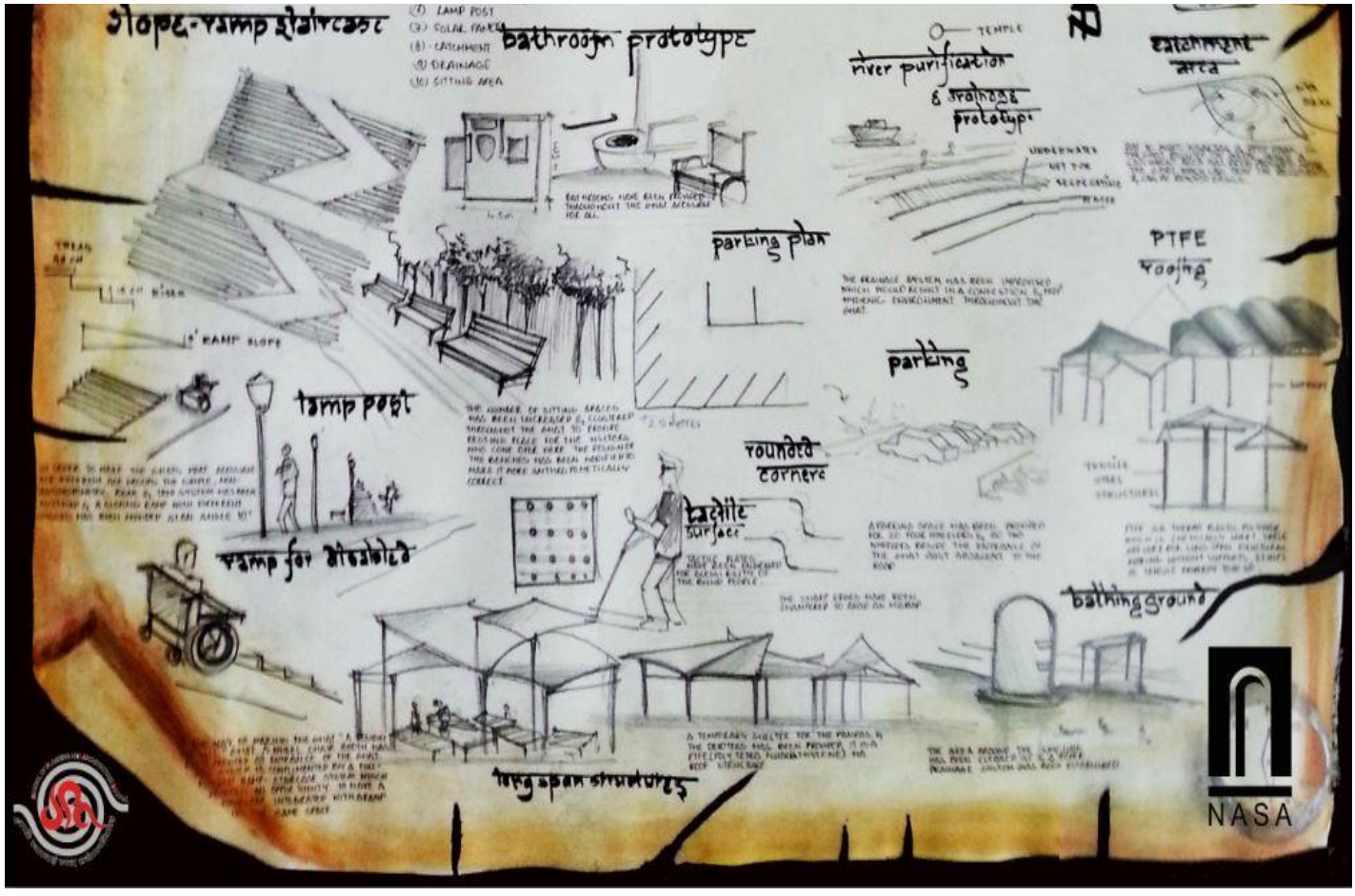
Initially, these ghats were deprived of any kind of green space. So plantation throughout the ghat was also proposed, keeping in mind the landscape of the ghat. Provisions of lamps, which run on the electricity stored by harnessing the solar power were deployed on the ghat to facilitate the visitors during the night.

This site never had any defined parking space which resulted in a lot of commotion during peak hours. So we extended the area above the toilets and defined a parking space and a circulation pattern for 40, 2-wheelers and 20, 4-wheelers.

Ghats in India have a general scenario of polluted water due to the practices which are carried out over there. So in order to facilitate the cleaning and maintenance of the river water, we proposed to create a catchment area near the ghat, where the municipal corp. can easily carry out the cleaning of the water without disturbing the activities of the ghat. This Ghat had a small temple in the middle of the river. So to transport the visitors from the ghat to the temple, there was a provision of 5 hand rowed boats. But the problem was there was no defined circulation pattern of them which created a lot of problem to the visitors who were there for the sacred bath. So we designed a small dock made of concrete and wood for these boats, hence reducing the traffic on the ghat.

DESIGN SHEETS: **(continued in next page)**

redesign
gwaarighat
view of the
proposed gwaari ghaat
zonal nasa convention trophy
proposed plan of
gwaari ghat


slope-ramp staircase
bathroom prototype
river purification
& drainage
prototype
parking plan
PTFE
roofing
parking
lamp post
ramp for disabled
rounded
corners
tactile
surface
bathing ground
long span structures
NASA

SURVIVAL JACKET FOR HOMELESS

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Our current population is 1.2 billion and is expected to settle at 1.8 billion. Let us call that 2 billion. To house a population of 2 billion, India needs 6% of its land area. This may not be difficult, considering we have 15% uncultivable land.

Mr. M.K.Gandhi said that for the poor, God comes in the form of food. Thanks to the three S's from Tamil Nadu- C.Subramaniam, B.Sivaraman and M.S.Swaminathan- people are better fed these days than when Mr. Gandhi was alive. However, shelter-particularly in the cities-has definably deteriorated. For the poor now God will probably appear in the form of shelter.

Political parties have put to good use this shortage of shelter. "Get the poor into appalling slums and offer them protection from eviction if the slum flies the party flag and promises to vote for the party when the election comes. That is a shame. It is cheating the poor of what should be theirs as a right. However, the poor are too weak to protest and too ignorant to understand that they are being cheated.

Soon after independence, the government gave up the idea of "slum clearance" and replaced it with "slum improvement". That meant the government gave one water tap for several hundred families, gave or let people grab electrical power and, at times, even paved the narrow lanes. But land for building a house of their own was an absolute no-no. Rather with rising land prices, it was not even affordable. Politicians argue that India is a crowded country and the

poor have to do as best as they can. But countries like Netherlands, England and, even Mauritius is more crowded than India and yet has no slums.

Unfortunately, we cannot find that kind of space in any of our large cities. On the other hand, when we fly across the country, we notice how empty it is. So, the correct solution is to build houses where there is space-and not inside or close to our already overcrowded cities-along with jobs and a full range of services. That is quite possible but there is one difficulty, in-fact, an insurmountable problem. If we do not overcrowd our cities further, our politicians cannot make money by grabbing land, they would not be able to then fill their apparatus with bureaucracy.

CONTOUR LINING THE HOMELESS:

The homeless mass just does not include those migrated masses it also includes people who have been abandoned from the society either culturally, financially or socially.

The homeless mass consists of:

-Woman with children abandoned by their provider.
-Alcohol Abused.
- Drug Abused.
-People with mental health issues.
- Most importantly people with paid work which is not enough to sustain/afford/build a shelter in the present system.

More than the realization of the domain of diversity, it should be understood that: Homelessness is a strategically planned phenomenon rather than a perceived state of life.

So what's the plan?

In such a country like ours where working against this deeply rooted system would increase the chances of one getting murdered. Strategically working with this system to slowly purify it's impurities in a "holistic approach" is the necessary to be done.

The idea was to *work "with" the system* to finally beat it.

To do this the approach had to be open-minded and solution finding with a brick and mortar kind of mindset would be a complete failure. It is to be understood that there is a difference between homelessness and people without a house. Equating the both would only lead to a creation of low cost temporary housing which would eventually convert itself into a permanent slum as in case of Haiti after the earthquake in 2010.

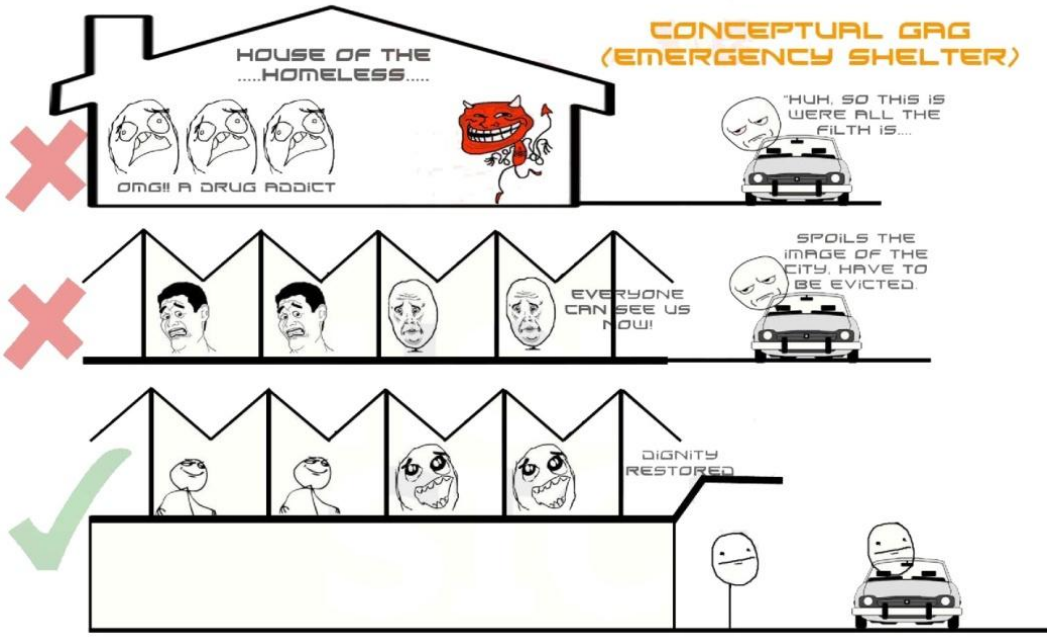
Thus solving this issue is more about creating an environment where the homeless feel "secured not exploited". It is because the homeless mass not only houses the clean ones involving people with inadequate life skills, but also the dirty ones abandoned by the society due to their friendship with drugs, crime or alcohol.

Allotting a building as a night shelter, housing this homeless mass thus would lead to an attachment of security/policing which doesn't solve the problem because *policing does not reduce crime/exploitation, it restricts it.* Thus an enclosed space would grow sprouts of exploitation.

THE IDEA:

Thus the idea was to have a space, housing the homeless at night having psychologically no physical barriers. It would be a system which would provide it's users with a survival enhancing product.

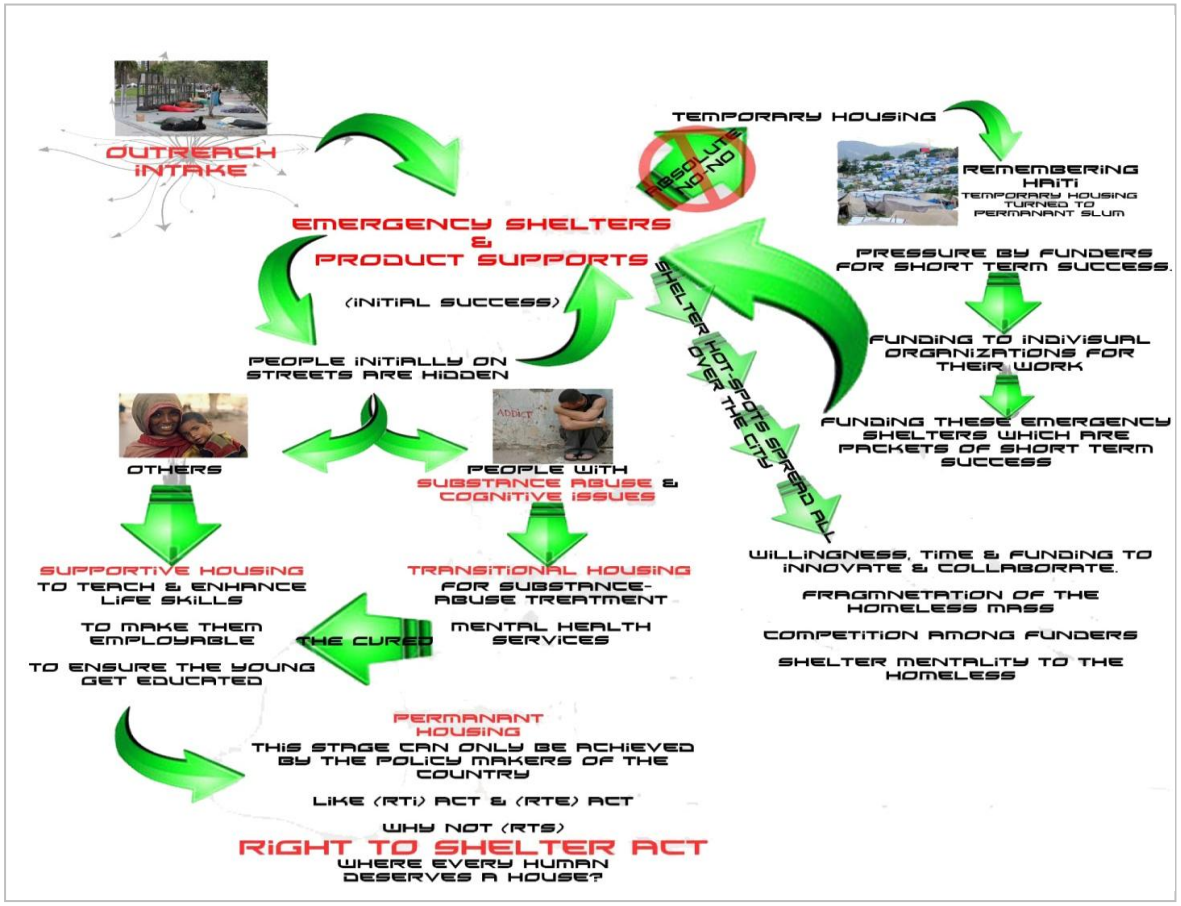
DESIGN PROPOSAL: *(Please refer Design Sheets along with the text)*

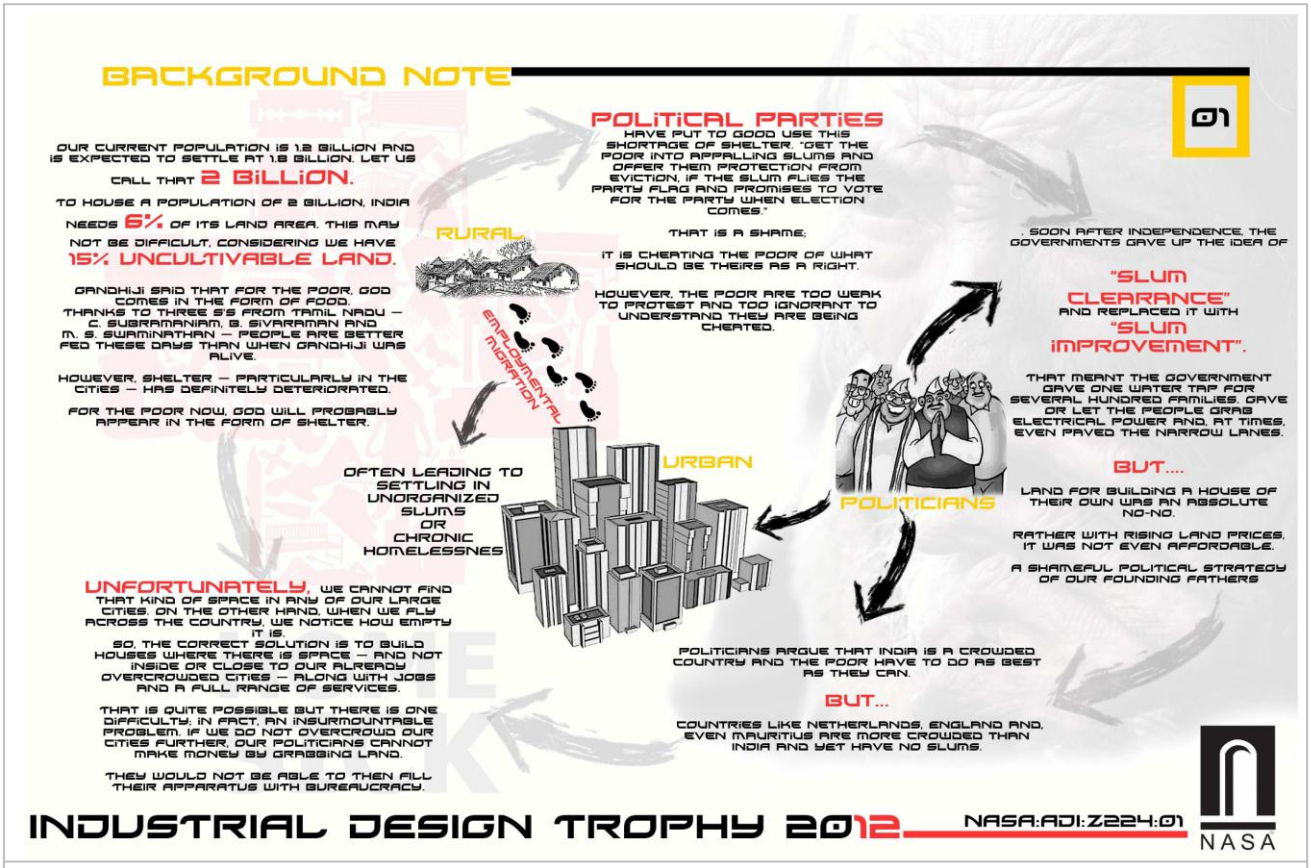


One consequence of the effectiveness of this emergency shelter is that it reduces the visibility of the problem to the community overall. People of the community are naturally blinded by their existence in the first place; thus lessening the risk of eviction. People who were homeless and who were fearful of being seen by their own community negatively were now able to conceal their condition at best. The lack of visibility reduced pressure on the community as well as the homeless as they were able to reinforce both their invisibility and their dignity. These people could now live in an open space which was secure both mentally and physically from being evicted, yet being invisible from the surrounding context.

Eliminating/reducing homelessness

PROPOSED SYSTEM: ***(Please refer Design Sheets along with the text)***




BACKGROUND NOTE
01
OUR CURRENT POPULATION IS 1.2 BILLION AND IS EXPECTED TO SETTLE AT 1.8 BILLION. LET US CALL THAT 2 BILLION.
TO HOUSE A POPULATION OF 2 BILLION, INDIA NEEDS 6% OF ITS LAND AREA. THIS MAY NOT BE DIFFICULT, CONSIDERING WE HAVE 15% UNCULTIVABLE LAND.
GANDHIJI SAID THAT FOR THE POOR, GOD COMES IN THE FORM OF FOOD. THANKS TO THREE SS FROM TAMIL NADU — C. SUBRAMANIAM, S. SIVARAMAN AND M. S. SWAMINATHAN — PEOPLE ARE BETTER FED THESE DAYS THAN WHEN GANDHIJI WAS ALIVE.
HOWEVER, SHELTER — PARTICULARLY IN THE CITIES — HAS DEFINITELY DETERIORATED.
FOR THE POOR NOW, GOD WILL PROBABLY APPEAR IN THE FORM OF SHELTER.
RURAL
EMPLOYMENTAL MIGRATION
URBAN
OFTEN LEADING TO SETTLING IN UNORGANIZED SLUMS OR CHRONIC HOMELESSNES
UNFORTUNATELY, WE CANNOT FIND THAT KIND OF SPACE IN ANY OF OUR LARGE CITIES. ON THE OTHER HAND, WHEN WE FLY ACROSS THE COUNTRY, WE NOTICE HOW EMPTY IT IS.
SO, THE CORRECT SOLUTION IS TO BUILD HOUSES WHERE THERE IS SPACE — AND NOT INSIDE OR CLOSE TO OUR ALREADY OVERCROWDED CITIES — ALONG WITH JOBS AND A FULL RANGE OF SERVICES.
THAT IS QUITE POSSIBLE BUT THERE IS ONE DIFFICULTY; IN FACT, AN INSURMOUNTABLE PROBLEM. IF WE DO NOT OVERCROWD OUR CITIES FURTHER, OUR POLITICIANS CANNOT MAKE MONEY BY GRABBING LAND.
THEY WOULD NOT BE ABLE TO THEN FILL THEIR APPARATUS WITH BUREAUCRACY.
POLITICAL PARTIES
HAVE PUT TO GOOD USE THIS SHORTAGE OF SHELTER. "GET THE POOR INTO APPALLING SLUMS AND OFFER THEM PROTECTION FROM EVICTION, IF THE SLUM FLIES THE PARTY FLAG AND PROMISES TO VOTE FOR THE PARTY WHEN ELECTION COMES."
THAT IS A SHAME;
IT IS CHEATING THE POOR OF WHAT SHOULD BE THEIRS AS A RIGHT.
HOWEVER, THE POOR ARE TOO WEAK TO PROTEST AND TOO IGNORANT TO UNDERSTAND THEY ARE BEING CHEATED.
POLITICIANS
SOON AFTER INDEPENDENCE, THE GOVERNMENTS GAVE UP THE IDEA OF
"SLUM CLEARANCE"
AND REPLACED IT WITH
"SLUM IMPROVEMENT".
THAT MEANT THE GOVERNMENT GAVE ONE WATER TAP FOR SEVERAL HUNDRED FAMILIES, GAVE OR LET THE PEOPLE GRAB ELECTRICAL POWER AND, AT TIMES, EVEN PAVED THE NARROW LANES.
BUT....
LAND FOR BUILDING A HOUSE OF THEIR OWN WAS AN ABSOLUTE NO-NO.
RATHER WITH RISING LAND PRICES, IT WAS NOT EVEN AFFORDABLE.
A SHAMEFUL POLITICAL STRATEGY OF OUR FOUNDING FATHERS
POLITICIANS ARGUE THAT INDIA IS A CROWDED COUNTRY AND THE POOR HAVE TO DO AS BEST AS THEY CAN.
BUT...
COUNTRIES LIKE NETHERLANDS, ENGLAND AND, EVEN MAURITIUS ARE MORE CROWDED THAN INDIA AND YET HAVE NO SLUMS.
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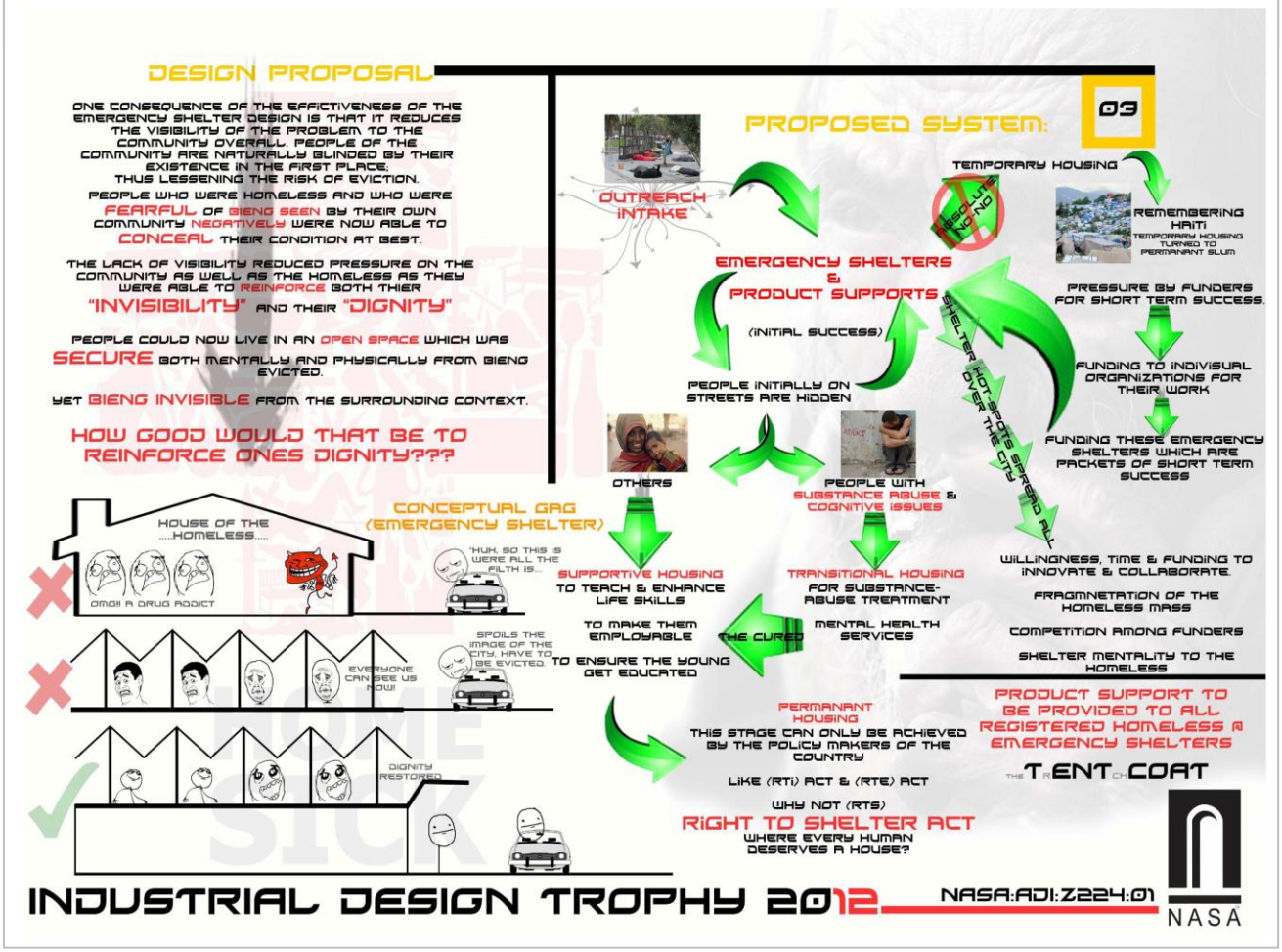
DESIGN PROPOSAL
ONE CONSEQUENCE OF THE EFFICTIVENESS OF THE EMERGENCY SHELTER DESIGN IS THAT IT REDUCES THE VISIBILITY OF THE PROBLEM TO THE COMMUNITY OVERALL. PEOPLE OF THE COMMUNITY ARE NATURALLY BLINDED BY THEIR EXISTENCE IN THE FIRST PLACE. THUS LESSENING THE RISK OF EVICTION.
PEOPLE WHO WERE HOMELESS AND WHO WERE FEARFUL OF BIENG SEEN BY THEIR OWN COMMUNITY NEGATIVELY WERE NOW ABLE TO CONCEAL THEIR CONDITION AT BEST.
THE LACK OF VISIBILITY REDUCED PRESSURE ON THE COMMUNITY AS WELL AS THE HOMELESS AS THEY WERE ABLE TO REINFORCE BOTH THIER "INVISIBILITY" AND THEIR "DIGNITY"
PEOPLE COULD NOW LIVE IN AN OPEN SPACE WHICH WAS SECURE BOTH MENTALLY AND PHYSICALLY FROM BIENG EVICTED.
YET BIENG INVISIBLE FROM THE SURROUNDING CONTEXT.
HOW GOOD WOULD THAT BE TO REINFORCE ONES DIGNITY???
CONCEPTUAL GAG (EMERGENCY SHELTER)
HOUSE OF THE .....HOMELESS.....
OMG!! A DRUG ADDICT
"HUH, SO THIS IS WERE ALL THE ..... FILTH IS..."
EVERYONE CAN SEE US NOW!
SPOILS THE IMAGE OF THE CITY, HAVE TO BE EVICTED.
DIGNITY RESTORED
PROPOSED SYSTEM:
03
OUTREACH INTAKE
TEMPORARY HOUSING
REMEMBERING HAITI
TEMPORARY HOUSING TURNED TO PERMANANT SLUM
EMERGENCY SHELTERS & PRODUCT SUPPORTS
(INITIAL SUCCESS)
PEOPLE INITIALLY ON STREETS ARE HIDDEN
PRESSURE BY FUNDERS FOR SHORT TERM SUCCESS
FUNDING TO INDIVISUAL ORGANIZATIONS FOR THEIR WORK
FUNDING THESE EMERGENCY SHELTERS WHICH ARE PACKETS OF SHORT TERM SUCCESS
SHELTER HOT SPOTS SPREAD OVER THE CITY
OTHERS
PEOPLE WITH SUBSTANCE ABUSE & COGNITIVE ISSUES
SUPPORTIVE HOUSING
TO TEACH & ENHANCE LIFE SKILLS
TO MAKE THEM EMPLOYABLE
TO ENSURE THE YOUNG GET EDUCATED
TRANSITIONAL HOUSING
FOR SUBSTANCE-ABUSE TREATMENT
MENTAL HEALTH SERVICES
THE CURED
WILLINGNESS, TIME & FUNDING TO INNOVATE & COLLABORATE.
FRAGMNETATION OF THE HOMELESS MASS
COMPETITION AMONG FUNDERS
SHELTER MENTALITY TO THE HOMELESS
PERMANANT HOUSING
THIS STAGE CAN ONLY BE ACHIEVED BY THE POLICY MAKERS OF THE COUNTRY
LIKE (RTI) ACT & (RTE) ACT
WHY NOT (RTS)
RIGHT TO SHELTER ACT
WHERE EVERY HUMAN DESERVES A HOUSE?
PRODUCT SUPPORT TO BE PROVIDED TO ALL REGISTERED HOMELESS @ EMERGENCY SHELTERS
THE TENT COAT
INDUSTRIAL DESIGN TROPHY 2012
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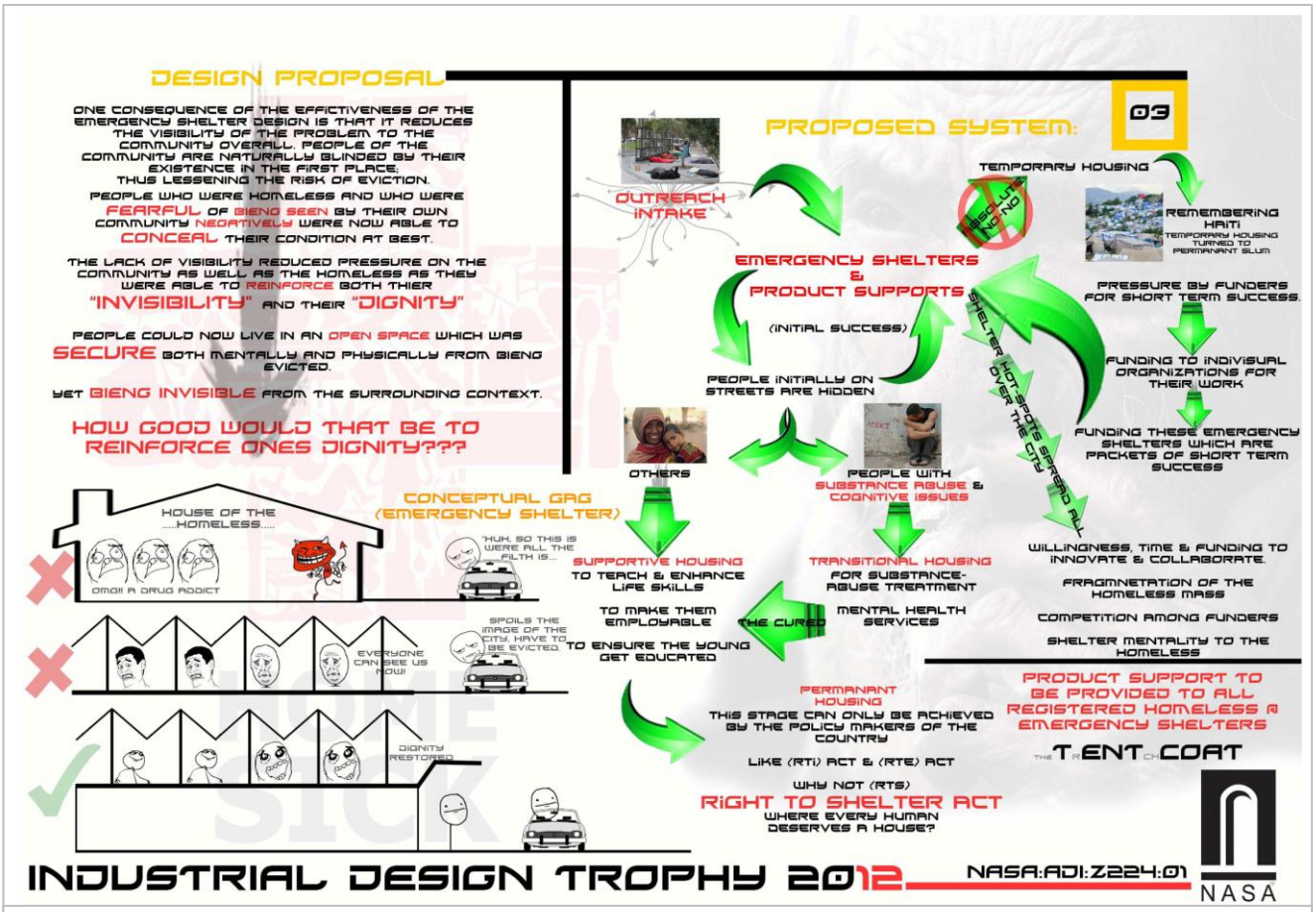
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THE TRENCH COAT
INDUSTRIAL DESIGN TROPHY 2012
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CONCEPT VISUALIZATIONS
THE TRENCH COAT
A SURVIVAL ENHANCING COAT WHEN THE HOMELESS IS OUT FROM THE NIGHT SHELTER.
MATERIALS USED
OUTER FABRIC
COTSWOOL
INNER FABRIC
WATERPROOF NYLON
HOODIE
LAPEL
ZIP
BELT
SLEEVE LOOP
FLAP POCKET
520mm
1500mm
620mm
TRENCH COAT (AS A SLEEPING BAG)
04
TWO 1000mmX600mmX600mm FOLDING LAUNDRY BASKETS ARE ZIPPED IN POCKETS NEAR THE SHOULDER AND THE THIGH AREA OF THE COAT.
THESE BASKETS ARE STITCHED IN COMBINATION OF "NYLON" AND "PLASTIC MESH"
THESE BASKETS ARE ZIPPED TOGETHER TO FORM A SLEEPING BAG
1000mm
600mm
TRENCH COAT (AS A BAGPACK)
TRENCH COAT (IN SUMMERS)
VELCRO
FLIP THE COAT IN HALF AS SHOWN IN THE FIGURE. FIXED USING VELCRO.
JOIN THE HANDS OF THE COAT USING PROVIDED VELCRO.
TRENCH COAT (IN MONSOONS)
REVERSING THE COAT WOULD EXPOSE THE WATER PROOF NYLON WHICH ACTS AS A RAINCOAT.
HOW ABOUT AN AFTERNOON NAP??
2000mm
1000mm
1000mm
600mm
THE SLEEPING BAG OPENS VIA A VELCRO WITH IT'S UPPER LAYER BIENG RADIUM STICKER TO ACCENTUATE THE PRESENCE OF THE PERSON AT NIGHT.
NYLON SURFACE OF THE COAT FACES THE GROUND
0 250 750 1750mm
INDUSTRIAL DESIGN TROPHY 2012
NASA:ADI:Z224:01
NASA

UNIVERSAL DESIGN OF INFORMATION KIOSK

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CONTEXT:

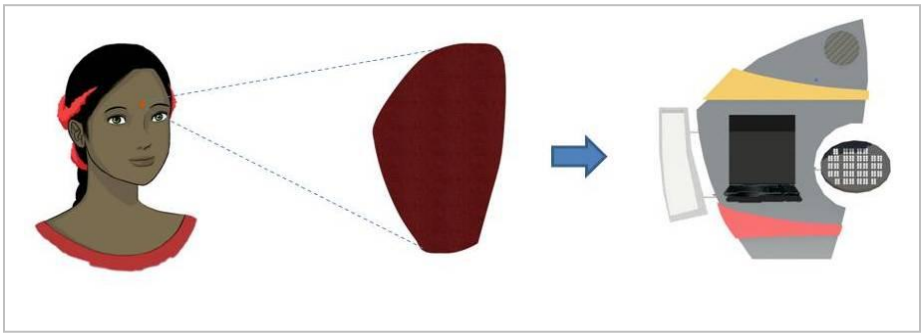
We humans constantly grow, with respect to our surroundings, with respect to our needs. Between the maze of our needs and requirements, what plays an inevitable role is the requisite to constantly learn and be aware of our surroundings. The disabled empathetically are no exception. 'Being aware or gaining information is synonymous to being empowered'.

One such thought emerged into our minds, and the thought formed the basic idea of our product that intends to serve a wide spectrum of people in every domain. Not just the so called 'mainstream'.

REACHING TO THE FORM:

In India we greet, we acknowledge people with our special ways to welcome, one such way is to put 'tilak' (a cultural gesture) on the foreheads, considered pious and highly respectable. It not just serves it purpose to welcome but also creates a warm beckon for our visitors. The following figure shows the transformation of the basic shape of the traditional 'tilak' which will serve the purpose to provide information to the people with special needs and at the same time help in improving their participation in the society at large. Similar to a tilak in Indian context, our product symbolizes dignity and pride to the user as it brings social equity and equality. Providing quick access to any sort of information of the area to anyone it gives an opportunity for the differently

abled people to be more visible and equal in the public realm.



FUNCTIONING AND METHODOLOGY: *(Please refer Design Sheets along with the text)*

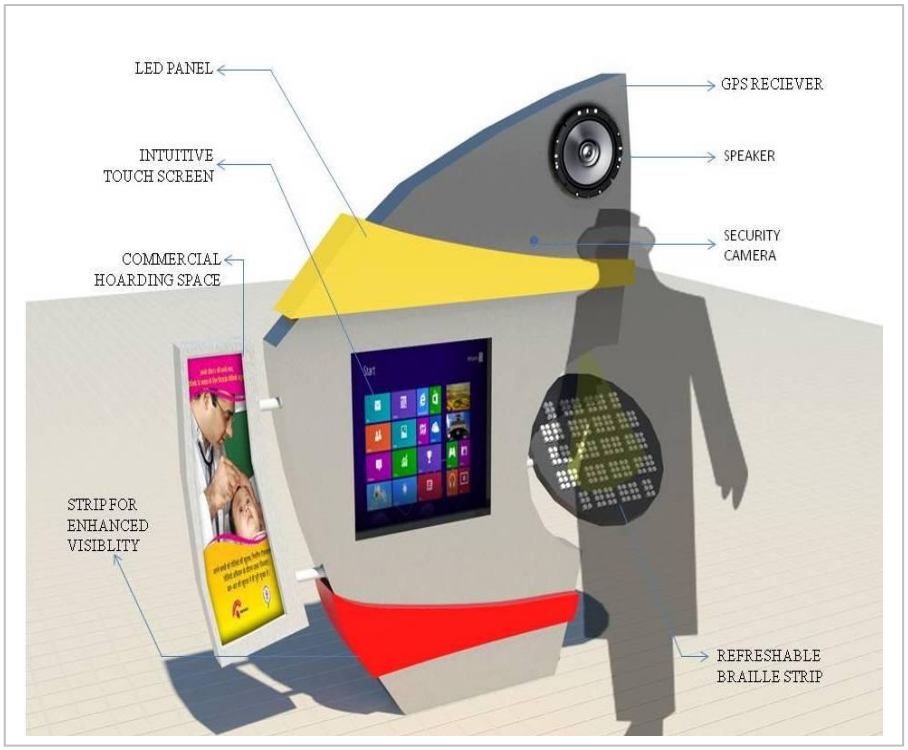
To cater the needs of all sorts of people in the society we have proceeded from the very core of universal design. Seven Principles of Universal Design (The Principles of Universal Design published by Center for Universal Design, North Carolina State University, Raleigh, NC, authored by Connell, B.R., Jones, M., Mace, R., Mueller, J., Mullick, A., Ostroff, E., Sanford, J., Steinfeld, E., Story, M. And Vanderheiden, G.)

- **Principle One: *Equitable Use***
- **Principle Two: *Flexibility In Use***
- **Principle Three: *Simple and Intuitive***
- **Principle Four: *Perceptible Information***
- **Principle Five: *Tolerance for Error***
- **Principle Six: *Low Physical Effort***
- **Principle Seven: *Size and Space for Approach and Use***

These seven principles lay the basic foundation of our product, which have been incorporated in almost all aspects of the product. The following figure shows the terminology and parts of the whole product-

DESIGN SHEETS:

The figure shows all the important parts of the kiosk.



LED PANEL:

The purpose of the LED panel on the top is to continuously flash the location, time, directions towards the exits and entry and also the important announcements.

INTUITIVE TOUCH SCREEN:

The screen placed at the centre of the kiosk is a multipurpose capacitive touch screen, provided with a keyboard which serves various purposes including all sorts of information in multiple languages with an easy interface. The most important purposes of the screen are-

1) Navigating the people in all the areas which includes the important public areas including toilets, drinking water facility, ticketing counters (in case of stations), floor wise plans and important zones with a interactive map showing the current location and the ways to reach the desired places.
2) Ticket booking facility and schedules of trains or buses (in case of respective stations).

REFRESHABLE BRAILLE PANEL:

The electro-mechanical Braille display panel works by the means of raising dots through holes in a flat surface. Blind users, who are unable to use a normal computer monitor, can use it to read text output. These panels are adjustable and can be rotated in a plane through 180 degrees which can be used by the visually impaired users according their ease.

GPS RECIEVER:

The pointed edge at the top of the kiosk has been provided with the GPS receivers, which provides the current location and respective

distances of all the important areas. Also facilitates the users with GPS receptive transmitters to locate the kiosk.

SPEAKERS:

For audio assistance and announcements these speakers have been provided which can also act as beacon at the time of emergency.

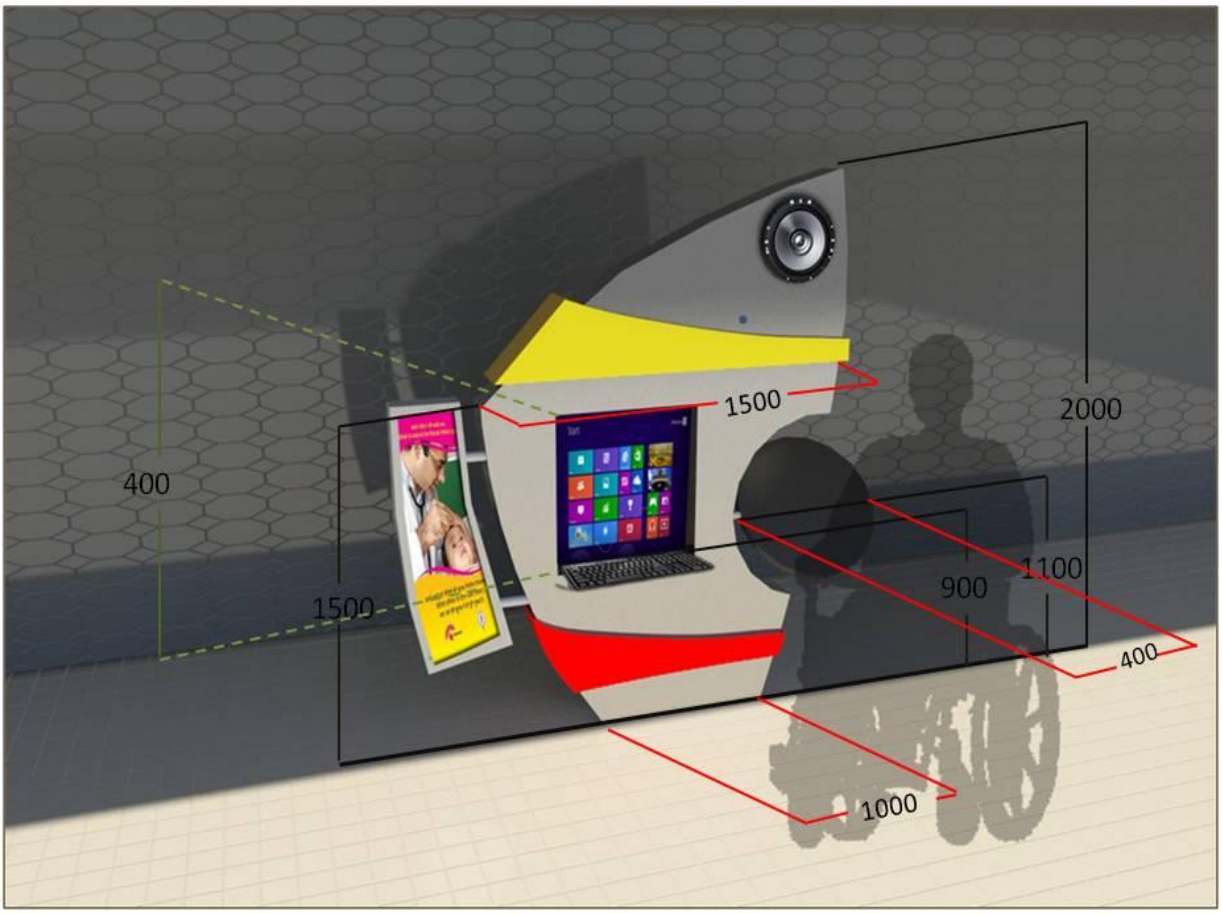
SECURITY CAMERA:

The camera provided at the top right corner of the kiosk facilitates continuous monitoring and surveillance. Also check if the nearby people are in case of any urgent difficulty which can be taken care of through audio messages.

CONTRASTING COLOURED STRIPS:

This strip painted with contrasting colors facilitates everyone including the people with partial blindness to easily locate the kiosk and also displays the associated user instructions.
In addition to these, commercial hoarding spaces have also been provided for display of advertisements which can generate revenue and help to reduce the economic inconveniences to a certain extent. The product is a prototype which can be implemented in various public and private or commercial places, and can be used in any number.

The following figure shows all the dimensions of the kiosk which have been set according the basic anthropometric requirements.



All Dimensions are in mm

BATH TUB FOR PEOPLE WITH PHYSICAL DISABILITIES

Abhishek Pal
B.Arch
student

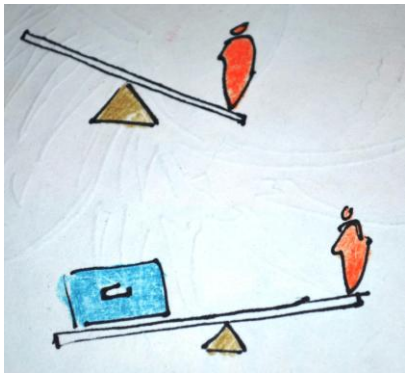
CONTEXT:

In order for a disabled person to take bath, he or she must receive the assistance of someone else. Many disabled people, who experience the preconception of others, may be reluctant to receive assistance performing routine daily tasks: like bathing.

CONCEPT:

This bathtub, which was designed using the principle of seesaw, has a point of entry which is used so that it is easy for a person to move his or her body from a wheelchair to the bathtub. Also, upon entry, a feeling reminiscent of riding a slide is experienced which may cause everyone to want to try the use of the bathtub.

Concept –seasaw



INSPIRATION:

Its design was inspired by the common slide found at the playgrounds and swimming pools.

PRINCIPLE: *(Please refer figures along with the text)*

The design came from an idea obtained from the principle

of the seesaw. The bathtub lies tilted towards the seat of the bathtub where the center of gravity is. This allows for a disabled person to easily climb into the bathtub. After a disabled person climbs into the bathtub and fills it with water using the faucet on the right side of the bathtub, the bathtub begins to center itself gradually due to the weight of the water, the center of gravity of the bathtub slowly causes it to tilt backwards in proportion to the amount of water remaining in the bathtub. The user is now able to easily exit the bathtub.

STEPS:

1. Place both Feet in the Bathtub

2. Grab the handle and slide into the seat of the Bathtub

3. As water fills the Bathtub it begins to tilt to the other side

4. When it is filled with water, the Bathtub becomes centered

SPECIAL FEATURES:

1. **The drain is located near the bottom of the seat so that water can be removed regardless of the amount of tilt of the Bathtub**
2. **Steel Grips on either side of the Bathtub provides ease in moving from the wheelchair to the Bathtub.**
3. **The Bathtub was designed organically in order to ensure the safety when the user moves around inside the Bathtub**
4. **It is convenient for anyone to use.**
   Comfortably enjoy your bath while sitting down

DERIVATION OF THE FORM:

Like us every generation used to go to the parks and try the See-Saw and the Slides for playing. This bathtub is designed using the principle of seesaw. Also, upon entry, a feeling reminiscent of riding a slide is experienced which results the physically challenged person to slide onto the seat of the bathtub.

INDIVIDUAL THOUGHTS:

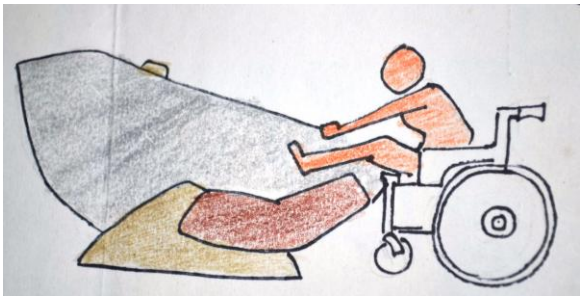
One problem I come across often when I work with people with disabilities is how possibly they could take a shower or bath? Many are unable to enter and exit a bathtub or have extreme difficulty doing so. Solutions have come in the forms of walk-in bathtubs. Each has their own advantages and disadvantages. This accessible bathtub involves simple physics similar to a seesaw or balance scale. The Accessible Bathtub will create a line of solution for physically challenged people that will be truly futuristic both in design as well as function.

BENEFIT TO THE TARGET PEOPLE:

The bathtub is an intriguing one for those physically challenged people who still want to soak and bathe. This bathtub has been designed with tilted mechanism to help wheelchair-bound people easily move their body from the wheelchair into the bathtub. This design enables wheelchair-bound people to get into bathtub independently without the need assistance from others. User can tilt down this tub to a level at which he or she can take hold of the attached handles and transfer him or herself into the tub. There's a seat built-in at the point of entry. As water fills the tub, it automatically balances out itself because the weight will be distributed evenly. As user drains the water, he or she can slowly tilt

the *bathtub* again to return to the wheelchair. My only concern is that, the user has to have strong hands to lift him/her self from and into the bathtub.

STEP1- Place both Feet in the Bathtub



STEP 2- Grab the handle and slide into the seat of the Bathtub

STEP 3- As water fills the Bathtub it begins to tilt to the other side

STEP 4- When it is filled with water, the Bathtub becomes centered

6. STUDENTS' EXPRESSIONS

The following section highlights the perspective of the students towards the persons with disability and universal design. There are diverse ideas in the minds of students and they have used their creativity to translate them into essays and articles, covering various issues associated with

DESIGN FOR ALL... AS IT OUGHT TO BE SEEN

"Where the mind is without fear
And the head is held high,"

Rabindra Nath Tagore

Kartikeya Sonkar
B.Arch student

Most of us owe this person a lot for what he has done as a father figure to the Indian society. As for me, it must have been my other side of luck that I was not born in his era. But, through what I have read and heard about him in books and other literature, there is one thing which was clear in mind- though he was not an architect or a designer but he surely did envision and dreamt of a world where all its elements were accessible to all.

To my mind, design is similar to literature in some context or the other. If one can't read the literature works, one can hear them and vice-versa; if one can't write, one can speak them and accordingly anything like that. But, above all, you can always feel it, express it just like your design no matter how weird they may be.

It was my trip to Massachusetts in the early February this year when I stumbled upon one of the premium samples of design mediation which shook me down the spine. While whole of the colossal Statesman House was concealed in snow, there was this diminutive symbol of a man on the wheel chair which coped with the thick and thin, still unperturbed in its tranquillity by the catastrophe of nature. Within my short instinct of architecture I never came across something as stunning as this perception. The pint-sized symbol portrayed much more supremacy than the power surrounding the House and it modestly conveyed its memorandum through its aura

round the globe. But, was this the sole place that conveyed such illustrations? Where was this aspect of design enveloping such might with so tiny palms? Conclusively, it is yet to practise at such an extensive scale to be brought to notice. But what one does not understand is that the fundamentals of frailty based design cannot be accomplished because one has to, they are adapted because one wants to.

Just like literary denotation of building is to build something, Design for all needs to be perceived in the same custom, context and hierarchy. One needs to understand that it is 'Design for "all"' and not only for inversely consecrated people and thereby, cease unsubstantiated discrimination on such pity basis. We as designers and architects possess the authority to alter to how the masses apprehend design in innumerable systems. It should be customary for one to always retain that urge to bring about designs inclusive of all the facets in its entirety without generating the discrimination, both at somatic and cerebral levels. We owe it to our dearth of suitable innovations that has left the less blessed slice of our community a long way back in the social participation. The sensitivity surrounding this aspect of the design is detached by minute membrane which goes down the line to bring out essence of exquisiteness being engulfed over a period of time and presenting the same in an obnoxious manner. It should be learnt that Design for all is that character of the edifice which gives a feeling of belongingness to the operator without actually making one apprehend that the structure is made for oneself. After all it is Design for All and not Discriminate for All.

To my mind, if ever God was an architect, then nature was his most perfect design, as its user never ever felt the sense of discrimination while it has been serving us.

DESIGN FOR ALL - DESIGN FOR LIFE

Aayush Jindal
B.Arch student

Niharika Singh
B.Arch student

"How does built space contribute to human oppression? Can it contribute to human liberation? If we could build anew our cities, neighborhoods, workplaces and dwellings in ways that fostered relationships of equality and environmental wholeness, what would they be like?" Weisman (1992, p. 2); the above quote certainly ponders over the need for a universal design. The idea that a diverse population needs a diverse environment to succeed seems easy enough to grasp. Certainly, it is easier to comprehend than a one-size-fits-all design philosophy. Why then, in the name of universal design and equality, do we continue to design uniform one-size-fits-all environments?

To this I have a memory to share.

I still remember the day when I first entered my high school. The very thought of being with new classmates made my adrenaline rush. It was completely different place, a new step in the journey of my life. Like me everybody else was too excited to be in a new classroom. Amidst all this, I saw a boy sitting at an extreme corner isolated from others, quiet and just watching others. I realised there was something in him, something so different from others. He was not a normal child, he was having polio. A sense of pity overpowered me, I observed him everyday struggling to cope up with the surroundings. He dealt with great problems each day. Not because he was a physically disabled child but because of the inadequate facilities available for people like him in my school. And today in our country and all around the globe this is a major crisis.

Why are physically disabled or elderly people so ignored? Why not try making structures that are universally designed for mankind?

Today there is a need for making designs that are accessible by everybody, be it physically disabled, an elderly or a pregnant woman. This is a time of revolution; we want everybody's contribution in making a stronger and sustainable country. For everybody's contribution there is need to bring each human on the same platform so that they can raise their voices and contribute equally. For this universal designs are the only solution. Equality doesn't come in a single day. We need to develop it from a preliminary stage (when a boy or a girl enters school).

Advancements in medical sciences have increased the population of the disabled several times over the years. Small children, pregnant women and elderly are also an integral segment of the society. Are these segments only for government funds? And are to be always taken for granted? When they contribute to a total of 30% of our country's population, why a design only for the rest 70%? Why being so partial? Can't we design keeping in mind the 100% population of the country. For this we need to sensitize design according to their needs. They need specially designed products and buildings because of their inability to use normally designed products comfortably.

There are two ways of fulfilling their requirements –providing accessible design and universal design. Accessible design has separate arrangements made for the disabled whereas universal design includes products designed in such a way that normal as well as disabled people can use it with the same comfort and ease. Universal design means giving attention to the needs of 'real life diverse users' including elderly ,children, pregnant women ,people with disability, and people

with socio-cultural differences . An important allegation of universal design is that it has mass appeal. Accessible design often has a medical or institutional appearance. The lack of good aesthetics often leads to "technology abandonment" on the part of the consumer or negative attitudes towards accessibility on the part of building owners or designers. To assure that universal design will be accepted, it must have a high standard of aesthetics.

Individual minds hugely vary in skills, needs, and interests of learning. Neurosciences reveal that these differences are as diverse and unique as our DNA or fingerprints. These minds just need an equal platform to showcase their talent. To ensure equality at the school level the academic premises and curricula should be designed with flexibility. An adaptable curriculum and learning environment will help students with varying disabilities and opportunity to adjust and compete with their fellow mates. Besides that presentations should include various means of instruction like audio, visual, textual, motionless images etc. and students be allowed to respond through writing, speaking, drawing, video recording etc. Universal design means designing materials and activities such that it allows the learning goals be achieved by people with wide differences in their abilities to speak, see, hear, move, read, write, understand and remember. It provides a blueprint for creating instructional goals, methods, materials, and assessments that do not follow one-size-fits-all methodology but rather provides flexible approaches that can be adjusted and adapted according to the individual needs.

Taking architecture into consideration, ramped entrances and corridors and automated doors are a necessity or an institution who deals with children suffering from disability. Suggesting ramps instead of stairs sounds impractical keeping space efficiency in mind. Instead

introduction of lifts at certain distances can fulfil both the requirements. Inside classrooms furniture and walking spaces should have enough area for a wheelchair or walking aid to function with ease?

Transport facilities available for the disabled on the way to their institutions should include barrier free pedestrian routes from their respective residences to nearest accessible transport facility area, buses having stairs that can be unfolded into ramps etc.

This levelling commonly reduces environmental diversity that in turn threatens accessibility and enriching experiences to both those with and without disabilities. This one-size-fits-all mentality consolidates variation instead of celebrating it. Sandy Speicher—an expert in educational design at IDEO—says, "Too often, equality in education is treated as sameness. The truth is that everyone is starting from a different place and going to a different place." Speicher advocates for mass customization, both in the system and the classroom. Remember "Equality doesn't mean we require the same environment, but an equal opportunity to address our individual needs". A Universal design accessible for all is similar to a Universal language (English) for all. Imagine me writing this article in my mother tongue (Non English).

ACCESSIBLE DELHI

Tarun Bhasin
B.Arch
student

"At the stroke of the midnight hour, when the world sleeps, India will awaken to life and freedom. A moment comes, which comes but rarely in history, when we step out from the old to the new, when an age ends, and when the soul of a nation, long suppressed, finds utterance. It is fitting that at this solemn moment we take the pledge of dedication to the service of India and her people and to the still larger cause of humanity..."

With an overwhelming speech by Pandit Jawaharlal Nehru, India embarked on a new journey - to revive it's lost glory. An independent nation, whose future was paved on the ideals by Mahatama Gandhi; a country dedicated to service humanity, to give life and freedom to every suppressed soul with a motto of Sarvodaya for all. " Nevertheless, the past is over and it is the future that beckons to us now..." With these lines by Nehru, the construction and composition of India as a post-modern country was commenced and various architects from around the world were beckoned to help India in its unending quest, even from the countries that once ruled us; thereby proclaiming that India had moved on over its brutal past.

In this restoration process, where freedom of movement, of life was being gifted to everyone in every nook and corner of the country, there was a particular section of our big Indian family that was left neglected. The world saw India as an emerging economic superpower, evident from its rapid growth in infrastructure. But this growth wasn't shared by all. The perception of collective growth at that time was limited to the sphere of common people only; the

physically disabled were left out. The purpose of servicing humanity was incomplete.

In the next 30 years, the country came up with the world's largest and densest railway network, the biggest employer in the world, but again to disappoint a section of Indian masses. At the stroke of the midnight hour, 30 years hence independence, a man on a wheelchair sought to board a train from the New Delhi Railway Station. As he approached the station, he found it difficult to enter the very premises of the platform; stairs surely were not an option for him. Somehow the people with him around managed to lift the wheelchair to the platform level and continued to the desired platform. Crossing the platforms came as an equally formidable challenge. The steep ramps that linked to the over walks were too heavy to climb upon and too fast to get down from; often resulting in skidding of the wheelchair. The train did not bestow any mercy either. The high rise of the train bed made it a rough task to lift the wheelchair onto the bed, but before the task could be accomplished the wheelchair gave away to the stress and the man collapsed on the floor causing him a severe head injury.

It was just one incident in many where many blind, hearing impaired, wounded or people suffering from any physical complication were injured and found the system humiliating. Children or adults, physically impaired could not use government buildings, parks or other public domains. Improper guiding infrastructure was a huge disadvantage for them. The international outcry for the need of accessible and universal design soon found ears in India. A support for the then called "handicapped" arose from the streets and soon Indian legislature was awakened to yet another reform. But was it too late?

"At the dawn of history India started on her unending quest, and trackless centuries are filled with her striving and the grandeur of her success and her failures. Through good and ill fortune alike she has never lost sight of that quest or forgotten the ideals which gave her strength. We end today a period of ill fortune and India discovers herself again."

Again the speech of Pandit Nehru reverberated in the hearts and minds of every Indian alike.

It was an unending quest after all, and with success we had faced this failure but hadn't lost our way. It was a moment of impact, a moment of realization, a moment of self-introspection, self-discovery - the PWD Act 1995 - better late than never!

This act brought a major change in the Indian society. The central and state departments for persons with disabilities were set up. Education and employment was made easier for them by protecting them against any discrimination by providing affirmative systems and actions. Special schools and institutions for man-power development were started. The architecture also underwent change. Government buildings had to incorporate some degree of universal design and accessibility options.

18years hence.. Fifty feet underground, grey concrete flooring, levels over levels stacked, the mellow roar of trains arriving and leaving, the usual bustle of a metropolitan – all heard and felt at the same time – deafening one's ears, blinding one's eyes and numbing one's sensations. The sight is the heart of the baby project of India's capital – Rajiv Chowk Metro Station. Amidst the chaotic crowd, easily forgotten sight of a blind man finding his way easily to Café

Coffee Day at one of the corners and then to his usual yellow line, a level below; or that of a man on wheelchair being helped to his line without any bumps. Yes, easily forgotten for one doesn't see them both struggling, confused or scared – but see them as a part of the crowd. Cutting to the architecture, the tactile plates follow an intelligent system of reading, and have been installed in such a language that not only helps in the direction decision but makes the user understand the aspects of his surroundings too. Use of ramps and lifts with stairs and elevators has obliged the old and people with disabilities. The same level of the train flooring and platform has made a huge difference, making Delhi Metro a path changer. IS THIS THE ULTIMATE ACHIEVEMENT?

No, it is but a small step in the Indian transit; a lot needs to be done still. Framing the bigger picture, the Indian Railways - the world's densest railway system and also the largest employer – provides a poor access to the disabled. Steep and ill maintained ramps, no lifts, poor access to various parts of stations; and the very basic but the biggest problem of the high rise of trains – it is a shameful way to cater to the population but also shows the ample opportunity that can make believe one that universal design in not after all, just a myth. What if these small yet effective methods could be inculcated in every other railway station of India with the new found proposals like automated ramps joining the train bed to the platform – a game changer indeed! What if these changes are not limited to just the railways but every other mode of transit in the country; smoothened and automated ramps at every bus stop or this new found intelligent system of tactile plates on pedestrian walks or travelators for road crossing? The image we get is of a city that is virtually accessible by

anyone and everyone, an image that can make any architect smile – the core of universal design achieved.

We do not need to build anything new or grand, just observe and understand what's around us and exploit it as far as we can. These many small things if inculcated in every other design (the process has been commenced already) will prove to be revolutionary, and make us realize the statement – "take care of the small things…"

DOES 'DESIGN FOR ALL' EQUATE 'DIGNITY FOR ALL'?

You have to mean it when you design it.

Dheeraj Reddy
B.Arch student

I am not concerned about what 'universal design' actually means, but I do ponder- why have we got into a situation where we have to think about them 'specially' while designing something? It could be a 'normal' designing process where the universal design should be an integral factor not a 'special factor'. I believe, it's not the ability or the so called 'disability' that decides what kind of person you really are. It's the real you (where the heart is the dominant organ of all, which makes you special, not your abilities) that makes you what you are ought to be, yes ought to be, because it's not karma or fate that decides, the environment the person lives in... and when you strive to make it a better place for all (all kinds and classes) that's what universal design speaks about, doesn't it?

Narayanan Krishnan (founder of Akshaya trust), who comes from the so called 'privileged life' (he 'was' a Brahmin). He shuns the cultural belief of some in India that says the men and women who are homeless, destitute, struggling in the streets or suffering from mental illness are untouchables and unworthy of compassion. He sees them as equal, in the streets of Madurai he saw an old man eating his own human waste out of hunger, that was the day when he realised the purpose of his life, since then he serves them by providing them food year-round, giving them bath daily, giving them haircut in weekends. As he says food would just give them the

physical nutrition, but love and compassion we show them gives mental nutrition. So, what's the whole point of me speaking about a person who has nothing to do with universal design.. Narayanan Krishnan hasn't designed anything, but what he did is being truly committed to serve the old and mentally destitute because he has gone through a life changing incident where he had 'totally' understood the situation and had immediately sought for a 'solution'. so as designers do we 'really', 'totally' understand a problem (of any level) like he did, we do namesake case studies where we look at the issue as a complex thing and try to solve it though some complex process, what we need to do is to literally walk in the streets(yes the streets,21st century India has got almost everything into the street) like narayanan did, where you see the real world, where you would be introduced to those striving forces that which will lead you to solutions that are simple and perfectly satisfying every criteria which anyone can think of, because here you would really mean it because you have gone through what we call real (not an imagination where we 'assume' 'real' things).

Treating all equally with dignity through design is not just meeting the goal of their physical convenience. Places like government buildings, amusement parks, hotels etc are used by all classes and should be designed in a way that they pose no kind of discrimination, for instance if a blind person and a normal guy enter a building, there are stairs for the normal guy and ramp for the person with disability, this is exactly where the ugly face of discrimination creeps in.

Dr. Megha Phansalkar an Indian started an initiative called "prajwal". They strive to give the differently enabled the smallest joys of life like riding on a roller coaster, being able to paint and

soak in the immense beauty of mother nature. Initiatives like these provoke us the "fraternity of future designers" to be able to create something universal in its true sense. Also taking inspiration from prominent personalities like Baba Amte and Narayan Krishnan to help them in any way we can to succeed in their initiatives to create a place for all in this racist world. All these initiatives are a result of a devastating experience which acted as an eye opener and prompted these people to do something. Their initiatives are social which can be manifested as architectural to make an even bigger difference.

As a designer and hopefully the future of this developing country, I would like to see a world where design knows no inequality and thus preserving the dignity of all.

-a work by
Deepshikha Sinha
No external help is required, when we feel the bliss in ourselves...

BOOK RECEIVED:

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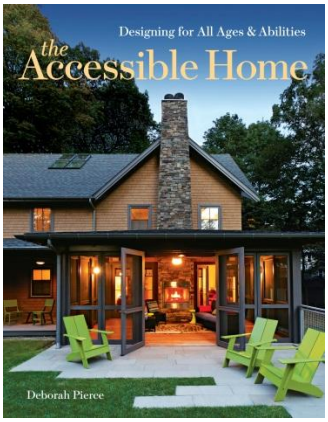
The Accessible Home: Designing for All Ages & Abilities
New Book by Architect Deborah Pierce



Newton, Connecticut (October 23, 2012) – The Taunton Press is pleased to announce the publication of *The Accessible Home: Designing for all Ages and Abilities,* by Deborah Pierce. Foreword by Michael Graves, FAIA.

This first-of-a-kind home design book addresses the needs of families, couples, and visitors looking for an accessible home that is both beautiful and functional. The Accessible Home shows how ordinary people with extraordinary challenges can partner with architects, designers, and their own families to create homes that restore capabilities, independence and the grace of daily living.

The book is also a tool for the more than 80 million Baby Boomers to age in place in their current homes and lead a lifestyle with independence, comfort, and safety for decades. A recent survey by AARP revealed that 84 percent of Boomers would like to stay in their current homes during retirement, but only 16 percent have taken any steps to adapt their homes accordingly.

Author Deborah Pierce is one of our nation's foremost experts on universal design. As an architect for the past three decades, she has

been focusing on how a home serves the activities of daily living. As a result, the projects in this book convey the power of universal design – useable by everyone.

Michael Graves, FAIA, says, "Deborah Pierce tackles the small problems along with the large in her quest to make wonderful places where people with disabilities can live comfortably and safely."

Homeowners, architects, designers, remodelers and builders will find ideas, inspiration and courage to create homes that are unique to each household's requirements and at the same time, attractive to broad segments of the population. She shows us that "accessible" can be beautiful and functional, light and airy, low-maintenance, safe and comfortable, and that universal design today is a far cry from the grab-bars and ramps of yore.

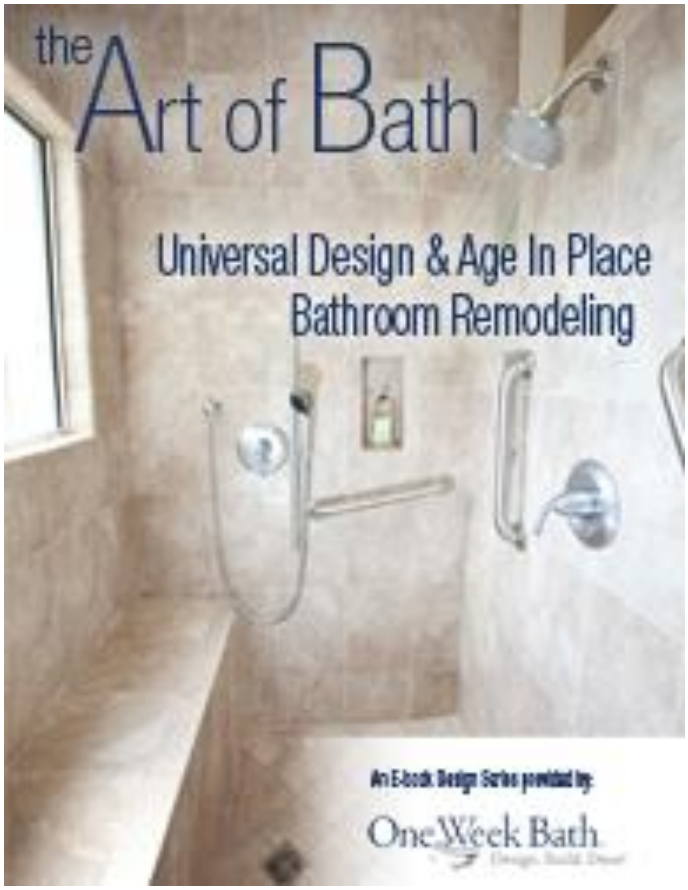
The Accessible Home **features 25 new and remodel projects and 225 photos from across North America to show readers how to create a home that serves its owners for years to come.**

Title: *The Accessible Home: Designing for All Ages & Abilities*
Publish date: October 23, 2012
Publisher: The Taunton Press
ISBN-13: 978-1-60085-491-0
Price: $27.95
Pages: 224
Photos: 225
Drawings: 30
Cover: Paperback
Trim Size: 8 ½ x 10 7/8 inches
Taunton Product: 071400
Web site: http://www.taunton.com

About the author: Deborah Pierce, AIA, is principal of Pierce Lamb Architects in Newton, Mass. and lectures across the country on the topics of architecture, accessibility and universal design.

2.

New E-Book on Universal Design Bathroom Remodeling Provides a Blueprint for Artful Style and Accessibility


the Art of Bath
Universal Design & Age In Place
Bathroom Remodeling
OneWeek Bath

NEWS:

1.

International Design for All Foundation Award Ceremony 2013

On 20 March, the fourth Design for All Foundation Award Ceremony was held at the Cité du design as part of the International Design Biennial Saint-Étienne. The event was introduced by Monsieur Maurice Vincent, Senator, Mayor of Saint-Étienne and President of the Cité du design / École Supérieure d'Art et de Design de Saint-Étienne, and was attended by a wide range of international representatives from different sectors. Following the ceremony, participants were welcomed at a drinks reception in the VIP area of the exhibition.

Once again, the awards received numerous entries from 17 countries, of which 55 projects were selected for evaluation by an international jury of experts. Noting that the overall standard of the entries increases every year, the jury carefully assessed applicants according to how far they met the award criteria, including excellence in the methodology used, outputs which fulfilled Design for All criteria, impact to society in general and innovation.

During the ceremony, Design for All Foundation President Francesc Aragall introduced the projects which had reached the finals in each category, emphasising the examples of best practice demonstrated by each one. The background to the trophy, a bespoke design by Joan Antoni Blanc, was also explained: its three hands sculpted in different materials, symbolising human diversity, echo the design of the graphic material created for the original Design for All meeting in Barcelona, which took place on 25 March 1995.

Finalists were congratulated and welcomed to the Foundation's international networks with a year's free membership before the jury's decisions were finally announced:

Category: Not-for-profit organisation

Winner: Helen Hamlyn Centre for Design

Finalists: Inclusive Design for Getting Outdoors (I'DGO) and Andere Augen with Blinden- und Sehbehinderten-Vereins Mecklenburg-Vorpommern

Category: Government or other public body

Joint winners: Senatsverwaltung für Stadtentwicklung und Umwelt Berlin and Technische Universität Berlin

Finalists: Departamento de Educación, Universidad, Cultura y Deporte, Gobierno de Aragón, Local Government Unit of New Lucena, Iloilo and Provinciale Hogeschool Limburg with Toegankelijkheidsbureau

Category: Private company or professional

Winner: iam design Oy

Finalists: ProAsolutions.pt, Dos de Mayo, S.L., Design Concern A/S

Category: User-centred design in Living Labs: Project proposal

Winner: Life 2.0 project

The Foundation would like to offer sincere congratulations to the winners and finalists for the projects which have earned this recognition. We would also like to thank all those who attended the event for joining us on an occasion of such importance for the Foundation.

To view photos from the ceremony, taken by Christina Modolo, visit the International Design for All Foundation Awards 2013 Flickr album. Please feel free to disseminate the photos, as long as the (Source: Design for All Foundation)

2.

LISAA School of Design launches its Second School in Bangalore

Report by India Education bureau, New Delhi: Lisaa is a premier French design school based on founding principles of French design and aesthetics with multiple schools located in Paris, Nantes, Rennes

and Strasbourg. In India, Lisaa School of Design established its first institute in 2011 in Gurgaon. This has been followed by the recent launch of its second institute in Bangalore in March 2013, which saw Bollywood actress Nargis Fakhri add her Midas touch to the star studded affair.

Nargis Fakhri had this to say "I am immensely pleased to be associated with this launch. Before a lot of students would go overseas to gain that much required work experience due to which we had missed out on many good talents. Thanks to Lisaa School of Design, Bangalore, students can gain the same expertise and skills sitting in India. I extend my heartiest congratulations to Lisaa Bangalore and wish the management all the very best for this venture."

Lisaa School of Design, Bangalore is the city's first ever branch of the acclaimed Paris based French design school. With a far sighted vision for quality education in design, Creo Valley has ventured to bring forth Lisaa School of Design, a globally reputed institute in the creative field of design to Bangalore.

Lisaa School of Design partners with world renowned universities such as the Rochester University and over 50 design schools globally. In addition, it has an association with prominent brands like Eurodisney, BNP Paribas, Louis Vuitton Moet Hannessy (LVMH), Saatch & Saatchi, and Christian Dior just to name a few.

3.

Forward Facing Rowing System by Ron Rantilla is da Vinci Award Finalist

Ron Rantilla Rowing Systems, builder of state-of-the-art forward facing rowing system for rowboats and canoes, is pleased to announce that the FrontRower rowing system has been selected as a finalist for the 2013 da Vivci Award.

WARREN, RI, April 04, 2013 /24-7PressRelease/ -- Ron Rantilla Rowing Systems has been building a revolutionary new rowing system for rowers who want a better way to row their boats. Now

the FrontRower has been nominated for the prestigious da Vinci Award for assistive technology and universal design.

he annual international da Vinci Awards were created by the MS Society (multiple sclerosis) to recognize the most innovative developments in assistive technology and universal design.

"Universal Design" is the concept of designing products that work well for individuals across a broad spectrum of abilities--from athletes in training to individuals with a limited range of motion.

The FrontRower fits universal design criterion because:

1. The FrontRower is designed to be more comfortable, efficient and easier to use than conventional rowing systems -- making it attractive to mainstream rowers who row their boats for exercise, touring or adventure rowing.

2. It's forward facing position makes it usable by people who may not be agile enough to twist around to see where they are going.

3. It can be operated by any two limbs (arms or legs), making it usable by people with arm or leg disabilities without any modifications. This also makes it useful for photography and fishing.

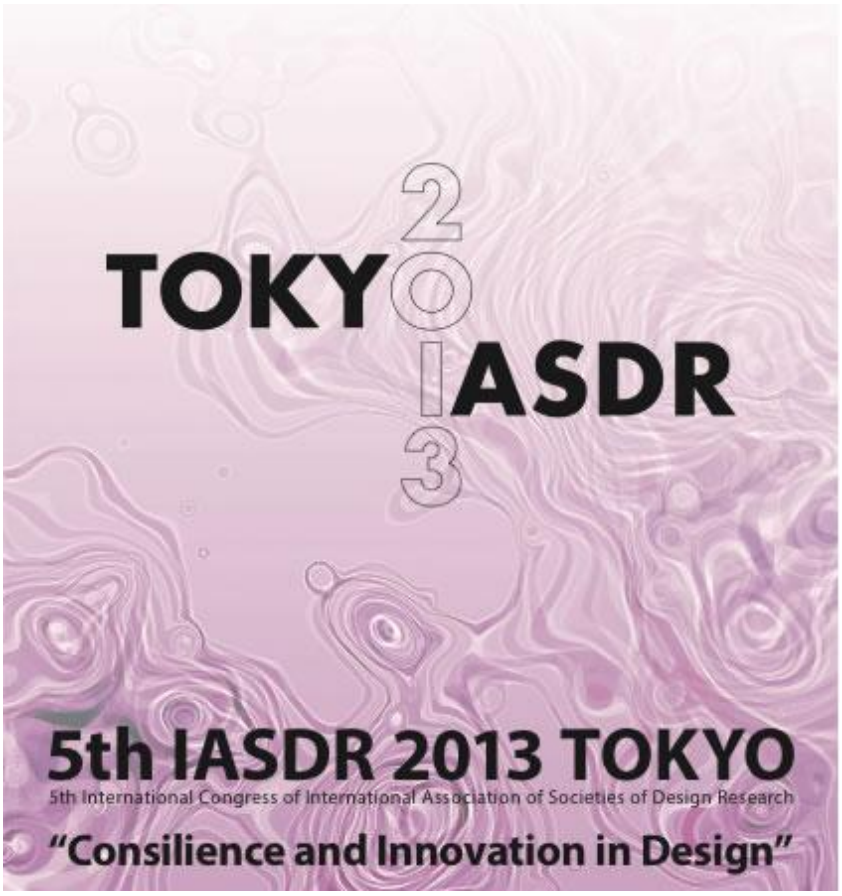
4. It's designed to fit in ordinary canoes, so someone who already owns a canoe will not need to buy another boat.

According to Ron Rantilla, inventor of the system, "The FrontRower was designed form the ground up with practicality and the comfort of the user in mind. Most rowing in this country is driven by the "sport" of rowing, which is racing in rowboats. This has led to rowing boats (also known as "sculls") that are not very user friendly."

Rantilla says he conceived of the FrontRower because he wanted a rowing system that could be used in his canoe for solo camping trips off the coast of Maine.

Program & Events:

1.



2.

3.

TYPOGRAPHY DAY
2013

7-9, March 2013 at DoD, IIT Guwahati

4..

HCI International 2013

21 - 26 July 2013, Mirage Hotel, Las Vegas, Nevada, USA

5.

1st Call for Papers: WG 9.4: Social Implications of Computers in Developing Countries

12th International Conference on Social Implications of Computers in Developing Countries

Conference Theme: Into the Future: Themes, insights and agendas for ICT4D research and practice

Ocho Rios Jamaica, 19-22 May, 2013

Submission Deadline: 26 November 2012

6.

1st Call For Papers, 17th Annual EUROMEDIA'2013 Conference, April 15-17, 2013, University of Lincoln, Lincoln, UK

7.

8.

9

10

UNIVERSAL LEARNING DESIGN

Universal Learning Design
Universal Learning Design
BRNO, 11–15 FEBRUARY 2013

11.

products, news, business

2013 IDEA open for entries

28 November 2012 by Kate Jones

The 2013 International Design Excellence Awards is open for entries.

home / 2012 / november / 2013 IDEA open for entries

The Industrial Designers Society of America (IDSA) are calling for entries for their annual International Design Excellence Awards® (IDEA) competition for 2013.

12.

International Istanbul Initiative on Ageing 4-6 October 2013

The International Federation on Ageing and Turyak Seniors Council Association cordially invites you to **submit abstracts for oral**

presentations at the International Istanbul Initiative on Ageing. All abstracts will be reviewed by the Program Committee and assigned to the appropriate concurrent session for oral presentations. Abstracts from around the world are welcomed to share best practices to the regions of the Middle East, Northern Africa, Eastern Europe, and surrounding countries of Turkey.
Abstracts must relate to one of the 13 sub-themes identified.
Abstract submissions are entirely separate from full paper submissions, and will therefore *not* be eligible for financial prizes or publications. For more information about Full Papers visit www.ifa-fiv.org.

Deadline: May 31, 2013 at 5pm EST

13

14.

Type Camp is coming to Delhi, Mumbai, & Chennai!

We are pleased to announce our spring 2013 schedule that features **three** professional urban training workshops in **Delhi**, **Mumbai**, and **Chennai**.

Spaces are filling. Sign up now for your opportunity to attend these professional training workshops!

Type Camp **Delhi**

14-16 March 2013

Type Camp **Mumbai**

20-22 March 2013

Type Camp **Chennai**

25-27 March 2013

15.

IDA
Congress
2013
Istanbul
Education & Research
Conference

16.

VLAAMS CONGRES UNIVERSAL DESIGN
Universal Design as a design strategy for the future
25.03.2013
Hasselt, Belgium
Avril Accolla's keynote:
"Design for All, good practices in Europe"
MEER
ONTWERPEN
VOOR
IEDEREEN

Job Openings:

1.

We at 99acres.com (Info Edge India Ltd.) are expanding our team of interaction designers and visual designer and are looking for a highly motivated individuals for the following position:

Designation : Visual Designer

Job Description Responsibilities include:

●Strong, clean visual design sense.

●Designing visually stunning user interfaces

●Producing graphic elements for use in websites and mobile solutions

●Understanding and assuring brand's characteristics and attributes

●Translating wireframes into visual design

●Creating user interface elements and assets

●Creating style guides, graphics and icons

●Stay up to date on current trends in visual design for web, mobile, desktop and tablet apps

●Ability to take critiques with a positive attitude

●Working closely with the product and technical teams to ensure continuity

Requirements and qualifications

●Solid background and knowledge of Adobe Creative Suite

●Demonstrated success in delivering visually pleasing designs

●Strong knowledge of color theory, page layout and typography

●Strong verbal, written and visual communication and presentation skills.

●Be a creative problem-solver and an effective communicator.

●Ability to adjust to changing priorities.

●At least 2 years experience in visual design.

●At least 2 years experience in Adobe Creative Suite

●The ability to prototype in HTML, JavaScript, and CSS

●Powerful and exemplary portfolio of previous projects and work products produced

●Good understanding of multichannel digital strategy

●Open to feedback and knows how and when to defend design choices

Education: BFA or MFA from good reputed design school. A person with an excellent portfolio in the field of Visual Design

Please apply with full CV, cover letter and portfolio to aman.mehta@99acres.com

Company Description

Info Edge (India) Limited is India's premier on-line classifieds company in recruitment, matrimony, real estate, education and related services. Our businesses comprise the following:

Recruitment – This comprises online recruitment classifieds www.naukri.com, India's leading job site and www.naukrigulf.com a job site focused at the Middle East job market) and offline executive search (www.quadranglesearch.com). Related sites in this business are a professional networking site (www.brijj.com) and a fresher hiring site (www.firstnaukri.com).

Real Estate – This comprises online real estate classifieds (www.99acres.com), a real estate brokerage business (www.allcheckdeals.com, housed in a subsidiary named (www.allcheckdeals.com) India Private Limited).

Education - This comprises online education classifieds (www.shiksha.com).

Matrimony – This comprises online matrimony classifieds (www.jeevansathi.com) and 14 offline Jeevansathi Match Points.1.

2.

Company Profile:

MarketXpander, a Bangalore based technology startup focused on B2B marketing space, is building the next generation cloud based marketing software named LeadSquared. LeadSquared helps businesses in generating, capturing and nurturing Leads and making them sales-ready. LeadSquared is poised to become the marketing software of choice for small and medium businesses that rely on internet and mobile as the media to engage leads.

LeadSquared is built and delivered on Software-as-a-Service (SaaS) principles using Microsoft .NET technology stack. We are looking for passionate Graphics Designer/Visual Designer to be part of our marketing and customer success team to create striking, high quality graphics and artifacts for the web medium.

Job Description:

Graphic Designer/Visual Designer

LeadSquared software helps small businesses worldwide in marketing and lead generation. We are looking for truly outstanding graphics designer who can design brilliant landing pages, email newsletter templates and to start with, our website!

Please send us references to your sample work, portfolio along with your resume.

Job Requirements

- 4+ years of experience in Graphics Design for websites, landing pages, email templates and social media sites.

- Understanding of and experience in corporate branding, layout, color theory and typography in digital media

- Ability to understand and appreciate great design and have great eye for details

- Demonstrated portfolio of unique and superior design examples in digital media

- High level of creativity with ability to multi-task

Education and Skills

- BFA/MFA in fine arts or Commercial arts preferred

- Skills in Adobe design tools and knowledge of HTML/CSS.

You can check about the company and product at www.marketxpander.com and www.leadsquared.com

3.

A leading Indian fashion house with three labels is looking for an Art Director(graphics). They cater to both Women and Men's wear.

The candidate has to have an understanding of fashion brands. Past experience with leading International brands that are into luxury category like Jewelry/ accessories/fashion or fashion magazines would be certainly an advantage.

Understanding of high end Indian consumers is a must.

Able to design and articulate independently the brand positioning, defining the brand's visual vocabulary and new season's campaign.

Working with leading models, photographers, production house is a given. Has to have pre and post production knowledge of shoots etc.

Needs to tailor the campaign message into print, hording, TVC and retail collateral like 'in-shop' communication.

This position is based in Bombay,prefer candidates from here and who can join ASAP. Kindly indicate your current CTC and notice period.

Please note this is a senior role and we need people to take up a full time assignment on the company role. we are not looking for Freelancers.

Please send in your CV/ folio to dcosta.francis@gmail.com

4.

Role : Principal User Experience Designer | Mobile
Location: Hyderabad

Job Responsibilities:

- Work with Product Management to Define Mobile UX strategy across domains
- Define and Ideate for multi- channel experience across platforms
- Be adept and experienced in various User Research and Usability Testing Methodologies including 1x1 Interviews, Focus groups, Surveys, Gathering User Feedback
- Understand and Analyse User Research Data to determine UX Key Differentiators
- Conduct Usability Reviews & Competitive Evaluation of Mobile Apps
- Generate User Scenarios based on domain understanding and analysis
- Define Navigation Models and Information Architecture for Mobile Apps
- Define workflows through paper prototypes, conceptual sketches or Storyboards
- Create wireframes with detailed interactions and with a focus on Attention to Detail
- Ensure designs are optimized for different mobile operating systems, mobile browsers, resolutions etc.
- Ensure the Workflows and designs align with the business goals of the Mobile Apps
- Work closely with project team to implement and deliver the final product
- Define and Communicate Design Rationale to Internal & External Stakeholders
- Define and Design Interaction Patterns & Guidelines applicable for Product Suite
- Document Design Best practices for Domains and Mobile Apps

Skills and Experience:

MUST:
- 5+ years of relevant work experience as a UX designer in designing web application, mobile application and tablet applications.
- Education requirements include either Bachelors or Masters in Interaction Design, Usability, User Experience Design or HCI related fields
- Proficient with Interaction Design Techniques , User Research Methodologies, and Usability Testing/User Feedback Gathering Techniques
- Proficient in Wireframing tools (Axure preferable)
- In Tune with current mobile application design trends and Interaction Patterns & Guidelines
- Good Communication Skills, able to thrive in a fast paced and an agile environment

OPTIONAL:
- Prior experience with a product company is preferred
- Mobile application development experience is preferred

Job profile:
At KonyLabs, You will be part of the team that designs and develops game-changing applications for consumers, employees or business use across various domains and mobile platforms. You will use a mix of technology including HTML5, dynamic languages, mobile OS APIs, server side programming and custom mobile technologies.

We are looking for a UX Designer, who knows the difference between GOOD and GREAT designs; someone who is able to work within ALL disciplines (interaction design, information architecture and user experience) while driving design directions from conceptual development through final

Implementation. The candidate will work with a world class product development team on UX strategy for multiple products for mobile and tablet devices. The ideal candidate will have rock solid design principles and have great problem solving skills. We're defining new categories of products, so imaginative design collaboration from the beginning will be essential.

5.

We at SAP Labs, Bangalore are looking for UX Designers to join our TIP-Core team. You can read more about the positions and requirements below in the formal JD.

Feel free to reach out to me for any questions you may have.

Interested candidate can apply with their updated resume and portfolio to harshvardhan84@gmail.com

6.

Dell International Services are looking out for user experience designers with a strong background in designing applications on a variety of mobile/ smartphone platforms. Candidates should be able to showcase extensive work or rich experience in designing for iOS, Android, Windows8 & other platforms.

Location: Bangalore

Total Relevant Experience: 3-5 years

Send in your application (resume + portfolio) to: siddharth_gaikwad@dell.com

The designer will be part of the go-to-market team that is focused on delivering mobility solutions for enterprise customers in the Commercial, BFSI & Healthcare space.

Here's a brief outline on our expectations from designers applying for this position ...

Key Qualities:

· Design for experience – Stronghold on facets that govern user experience of mobile/ smartphone platforms & related channels (web/ mobile-web/ mobile/ SMS/ etc.). Demonstrate an aptitude of creatingconsistently good experiences throughout the user's journey across various channels

·Technical Acumen– Should demonstrate proficiency in applying UX design principles (IA, Interaction Design, Visual Design, Usability Engineering & Prototyping) in mobility projects. Should be skillful in using appropriate tools to conduct qualitative & quantitative research that clearly bring out attitudinal & behavioral aspects of target users.

·Communication & Interpersonal Skills– Should be very strong in communicating ideas verbally & visually. The ability to sell ideas to clients/ development teams & work with them to achieve the desired end product, will be critical. Should be able to easily & effortlessly package, present, market & sell their own ideas. Ability to

collaboratively work with internal/ external stakeholders to develop & maintain scenarios, navigation models, interaction designs & prototypes for demonstration of ideas/ concepts. Work collaboratively with Product Management & IT to define scope

·Self-Organization– Need to be organized in order to meet deadlines & stay within given budgets. General business skills are desirable

· Problem Solving Ability– Strong problem solving skills & desire to seek challenge – Ability to generate ideas/ concepts on the fly – justifying the same while simultaneously conveying meaning, is crucial.

Key Skillset:

·Thorough understanding of UI guidelines of various platforms (iOS, Android, Windows 8, etc.)

· Fluency in conducting brainstorming & ideation sessions

· Efficiency in prototyping the design ideas (by utilizing a variety of prototyping software's)

· Creating & maintaining screen wireframes, process flows, site maps, navigation systems, screen prototypes & conceptual models to clarify & refine new product solutions

·Producing & maintaining highly accurate UI specification documents required to implement the design

7.

Dell International Services are looking out for visual designers having *extensive* experience in designing for various mobile (iOS & Android) platforms. Knowledge on Windows 8 Metro style UI would be a *BIG* plus. Along with graphic design, the designer should have a flare & interest in the following areas - cloud, social strategies & design for mobile.

(Quite often, the role & responsibility will go beyond the typical visual design deliveries. Need a designer who will also be able to - assist in research, conduct brainstorming/focus group sessions, develop design strategies, etc.)

Location: Bangalore

Total Relevant Experience: 3-6 years

Send in your application (resume + portfolio) to: siddharth_gaikwad@dell.com

Key Qualities:

· Design Sensibility – Stronghold on design elements, such as typography, color & composition is a must-have!

·Technical Acumen– Should demonstrate proficiency in using a variety of design & prototyping software's. Should have a good understanding of design constraints related to various mobile platforms and should be able to deliver graphics/iconography that is optimized for them.

· Communication & Interpersonal Skills– Should be very strong in communicating ideas verbally & visually through rich info-graphics. The ability to sell ideas to clients/development teams & work with them to achieve the desired end product will be critical.

·Self-Organization– Needs to be organized in order to meet deadlines & stay within given budgets. General business skills are desirable!

·Problem Solving Ability– Strong problem solving skills & desire to seek challenge. Ability to quickly propose design alternatives & justify design directions that are taken will be crucial.

Key Skillset:

·Deep understanding of UI guidelines of various platforms (iOS, Android, Windows 8, BlackBerry)

·Designing graphics/iconography & optimizing them for different screen resolutions & form factors

·Hands-on experience with HTML5 would be desirable

8.
Echidna Software PVT is a US based E-Commerce company , having its office in Bangalore. We are looking for passionate *UI/UX interns* for our upcoming projects. Also we have openings for *Junior/ Senior Visual Designers.*

The chosen candidate will be responsible for creating visual designs for many devices that includes web, iphone ,ipad . The candidate should also have experience creating promotional materials, presentations, and other web-ready artwork for clients.

You can mail your portfolio/resume on this id: nandini.k@echidnainc.com
9.
Motorola Solutions, a Fortune 100 company known around the world for innovation and leadership in communications, has permanent full-time opportunities available for Human Factors Specialists in its Innovation Design Group.
Innovation Design group consists of global studios located in Ft. Lauderdale (Florida, USA), New York (USA), Copenhagen (Denmark), Penang (Malaysia), and Singapore.
Our Penang studio is in need of experienced and passionate Human Factors/Ergonomics Specialists to help design innovative next generation wireless and mobile telecommunications products and systems.
Qualifications and Experience

- Masters or Degree in Human Factors/Ergonomics, Human-Computer Interaction, Interaction Design, or related fields.
- Ideally with industry experience as a hands-on human factors practitioner and usability evaluation specialist. If you have had considerable experience as an intern in a product development environment we would also like to hear from you.
- A deep understanding of Human Behavioural sciences (demonstrable by current experience, training and course-work).
Responsibilities and Skills
- You will conduct human factors evaluations, consultations, and iterative usability testing throughout the product development cycle, providing actionable recommendations directly to designers, marketing specialists and engineers.
- You will integrate seamlessly into a multidisciplinary team that includes Human Factors/Ergonomics Specialists, Psychologists, Cognitive Scientists, User Interaction Designers and Industrial Designers.
- Demonstrate the ability to deliver pragmatic recommendations in a fast paced & highly critical environment.
Other Requirements
- Ability to present analyses and design recommendations in a compelling manner.
- Self-motivated with a high level of responsibility and professionalism.
- Excellent communication skills in English (verbal, written & presentation).
How to Apply
If you meet the requirements described above, please e-mail your Curriculum Vitae or Resume and a statement of intent to: shirishk@motorolasolutions.com .
ABOUT MOTOROLA SOLUTIONS
Motorola Solutions is known around the world for innovation in communications. The company develops technologies, products and services that make mobile experiences possible. Our portfolio includes communications infrastructure, enterprise mobility solutions, digital set-tops, cable modems, mobile devices and various accessories. Motorola Solutions is committed to delivering next generation communication solutions to people, businesses and governments.
For more information about our company, our people and our innovations, please visit http://www.motorolasolutions.com
ABOUT PENANG
Penang, the "Pearl of the Orient" is a picturesque island located in the Straits of Malacca off the north-western coast of Peninsular Malaysia. A magnet for its beautiful coasts and delectable cuisines, the island is also a fascinating fusion of East and West, modernity and old world charm.
For more information on Penang and Malaysia, please visit:
http://travel.tourism.gov.my
http://en.wikipedia.org/wiki/Penang
10.
We at AlmaConnect, are looking out for an awesome Interaction Designer to join our young and growing team in Gurgaon. This is a full time position and would be a great chance to work at a rapidly scaling up startup.
Send in your application(resume + portfolio) to: praneet@almaconnect.com
Below are more details about the position:
Role:
Your job is make sure the AlmaConnect platform is intuitive, accessible and usable to our users. You will own the metrics for user engagement of the platform, and lead from the front to ensure they are going up the curve.
As an Interaction Designer, you showcase the right mix of intuitiveness, creativity and decision making in designing for the AlmaConnect platform. You have strong

sense of design aesthetic and work closely with the engineers and designers to design simple but great experiences for our users, focusing on interaction design.
Responsibilities:
• You will be responsible for all stages of design and must think strategically while executing with great attention to detail.
• Create workflows, personas, interaction flows/information architecture, low fidelity mock-ups, navigational flows, and high fidelity prototypes.
• Work with Visual Designers and Front End Engineers to bring the design to life.
• You will be comfortable to work with both quantitative (analytics) and qualitative data (user tests) to drive design decisions.
• Identify, prioritize, and track usability issues and make design recommendations.
• Track, measure and improve user engagement on the platform.
Qualifications:
• A great design portfolio.
• 2-6 years with significant interaction design experience in web, mobile, social media or e-commerce.
• Ability to articulate design concepts and communicate the user experience vision for the product in the most effective way.
• A mastery of web standards, user-centered design principles, knowledge of the software development process.
• Expert proficiency with design and prototyping tools: Adobe suite, Visio, Axure, Balsamiq.
• Outstanding presentation and interpersonal communication skills.
• Previous experience at a Startup (A definitive plus).
• Previous experience working on responsive mobile and web layouts (A definitive plus).
• Demonstrated experience to dabble with the visual design (A definitive plus).
Whats on Offer:
• A chance to work with a team which believes and understands design and moreover feels it is as important as any other aspect of the business.
Competitive salary and You get to pick your title: A couple of examples of our titles include: Outbound Sell-o-maniac Sardar!, Primary Techno Godfather, you get the picture.
• Work with a young and dynamic team
• We have recently been in a lot of press coverage, your work could get national and potential global recognition.
• Work out of a basement for now and move out along with us as we grow bigger (as a team and as a company). We believe basements are the Indian equivalent of Silicon valley garages
• We have a ping pong table to de-stress.
About AlmaConnect:
AlmcConnect is a well funded rapidly growing product startup focusing on creating a strong alumni community of an Alma Mater by creating a social-professional ecosystem among alumni, faculty, students and management of an institute. Alma Connect is also a CIIE, IIM Ahmedabad incubated & funded company alongside an investment from DAIICT's incubation centre - DCEI and Ixora Ventures. Without spending a single penny in marketing AlmaConnect has currently 45 institutes paying an annual subscription cost to use the product. Our team's common belief is that there is huge value in having a strong alumni community and we want to enable the value for the community. If you share our belief, please get in touch with us.

11.
VGC is ranked among the top four by Economic Times and has foundations in place to become the top Integrated Design Consultancy in India.Do you have what it takes, or know of a fitting profile, to be VGC's Strategic Business Head and leverage its equity for high growth?If so, our exciting and vibrant ambitions require a profile who understands the value of Design to realize opportunities and to grow aggressively in an emerging marketplace. Using knowledge and experience gained in Strategic Design and Communication domain, you will be required to steer our vision and ambitions to new levels.We would expect you to have proven expertise and track record to grow businesses in your previous assignments. Having an intelligent understanding of the world of Design with the ability to realize its true potential, you would be having a Glocal mindset and be plugged into the most current affairs related to this field. Based in Mumbai, you will work closely with top management to run Mumbai and Bengaluru offices to achieve mutual goals and targets.If indeed this is of interest then visit vgc.in <http://www.vgc.in> . I look forward to hearing from you.
Best,Preeti Vyascreative@vgc.inChairwoman-VGCChief Mentor-designomics.in <http://www.designomics.in>

12.
looking for UX/Interaction Designers for multiple open positions with us in SAP Labs, Bangalore.
Here are the details:
Experience: 2 to 12 Years
Position: Individual Contributor role (hands on)
Requirement:
●You use and can explain "design thinking" to a rookie employee
●You can consume raw research inputs and convert them into screen interactions. Fast.
●You have exceptional wireframing skills
●You are capable of prototyping at different levels of fidelity, from paper to video
●You know your bread and butter deliverables : UI guidelines and specifications
●You are exceptionally articulate and can faciliate regular dicussions with development with your interaction design as the centrepiece
●You understand visual design and can fill in for the visual designer occasionally.
●Excellent information structuring skills both written and verbal.
●Ability to quickly prototype at various levels from initial research and discussions.
If interested, please send across your updated resume along with your portfolio or portfolio link to me (ved_apr@yahoo.com or vedpal.singh@sap.com) to have a brief discussion about the same.
13.

Divami is a boutique UX design firm providing services to design and develop web/desktop/mobile applications. Divami exclusively focuses on software product companies. Divami has worked with large corporations like SAP, Sybase, Sterling Commerce; as well as small-medium startups and post-startups like CompassLabs, Greenplum (recently acquired by EMC), and MarketShare.

The sweet spot is working with customers whose core competency is server-side: Business Intelligence, Databases, Search, or CRM. Divami helps them bring complete products that have fantastic user experiences.

Divami is looking for people who are as passionate as we are about user experience to join us as Interaction Designers and Visual Designers. You can either join full time or as intern if you are just exploring and would like to gain some experience. You will have the opportunity to work on products ranging from marketing analytics, enterprise apps, CRM, mobile apps to social media platform applications.

Divami has an open and inclusive work culture - visit us in person to get a feel! Send your resumes with a web-based portfolio OR contact naveen@divami.com (+91 99899 24134) to schedule a discussion regarding opportunities at Divami.
14
Centre for Knowledge Societies, CKS Consulting Pvt. Ltd. (www.cks.in) is an innovation consulting firm, specializing in user-centred research and design in multiple domains, such as healthcare, m-commerce and finance, telecom, and consumer goods and decor, amongst others.
This posting is regarding an immediate job opportunities with CKS for a trends research project.
The aim of the project would be to conduct societal, media, and trend research for a market leader in the realm of colour and decor
in India. The project requires engaging with design professionals, experts, thought leaders, and trend setters along with conducting on field research.
We are looking for enthusiastic designers/design researchers fresh out of school or with a 1-3 of years experience.
Students currently in their final year of course in any of the above mentioned design disciplines, and possessing all/any of the skills outlined may apply for an internship.
Candidates may be from accessory, graphic, exhibition, or communication design or design management with an inclination towards trend forecasting, social, and media research. The designer must have the ability to traverse across domains of design thinking, writing, comprehension, and design conceptualization.
_ The candidate needs to be a team player, a learner and teacher; self regulating,
and motivated and should be willing to shoulder responsibilities.
_ Excellent writing skills for preparing good quality reports (ppt format), assisting in proposal writing, and writing blog entries
_ Very strong communication skill is a must. The candidate will be expected to respond to clients and will be expected to make client presentations.
_ Understanding of trends with an ability to analyse and ensure design translations. Good articulation skills and writing ability is a must.
_ Superior qualitative research skills and superior analytical abilities in order to effectively translate field insights into actionable insights
_ Ability to moderate and engage participants in workshops
_ Foresight, ability to collate and refine data with a strong planning and implementation capability
_ Good planning and time management skills with the ability to rapidly take up higher responsibilities and exhibit leadership with training in the course of employment with CKS
_Exceptional visual aesthetics and narrative ability to tell powerful stories

to convincingly convey concepts to clients and their end customers.
_ Excellent design software skills - Ability to create colour palettes, patterns, material finishes on illustrator. (3d rendering would be a plus)
_ Flexibility to work on projects with varying scopes in different sectors
_ Excellent interpersonal skills and a collaborative management style
_ Ability and willingness to work under pressure
_ Willingness to travel across India (Metros and other cities)
_The designer has to be organized and systematic in documenting their own work and dealing with clients and co-workers.
***We are also looking for Senior Design Researchers. ***
Job Description
The Senior Design Researcher (SDR) is responsible for conceptualization and delivery of Research and Design Projects, and is the face of CKS, to Clients, for Project Operations. He/She is expected to build a cutting edge team, striking an optimal balance between Sociologists/Researchers and Designers, and capacity enable them with his/her knowledge and experiences of best practices in the industry, such that CKS is ideally equipped to take up Research and Design projects across multiple industries and sectors.
Desired Profile
_ Very strong communication skill is a must (Verbal and Written). The candidate will be expected to respond to client requests by writing proposal and is even expected to make client presentations if necessary.
_Must have experience in designing guides, conducting user research.
_ Excellent secondary and online research skills.
_ Ability to handle multiple teams and ensure successful project completion.
_ Excellent workshopping and analysis skills.
_ Ability to generate and design concepts.
_ Excellent planning, organization and time management skills.
_ Ability to interact effectively at all levels and across diverse cultures.
_ Ability to adapt to changes in the external environment and within the organization.
_ Strong customer service and result orientation.
_ Display a sense of maturity, use previous experience to come up with effective solutions and ways of working.
_ Excellent computer and design software skills.
_ Excellent interpersonal skills and a collaborative management style.
_ Persuasive skills and ability to convince prospective customers about the service provided.
_ Foresight, planning and implementation capability
_ Specialization in User Experience and Usability.
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